Issue 152
PS
1965 Series
THE PREVENTIVE MAINTENANCE MONTHLY
THERE GOES BUM-GAGE CHARLIE. HE PULLED THE SAME DEAL ON A TANK LAST WEEK!
HE THINKS DIALS AND WARNING LIGHTS ARE "TRIM". NOTHING ON HIS VEHICLES EVER WORKS.
PORE CHARLIE, EVEN HIS WATCH AIN'T WORKIN'.
BUT, DOLL, MY GAGE WAS BUSTED, SO I JUST TOOK A GUESS ON HOW MUCH FUEL I HAD... SO, I WUS WRONG... C'MON DOLL BABY, BE REASONABLE!
Will Eisner

INSTANT READINESS

(Takes Hard Work)

If you ever have to turn in a fire alarm, you don't want the firemen to have to gas up, check the oil, fill the radiator, load up their hoses and ladders and then hot-foot it out of the firehouse. You can bet your burnt britches you don't.

You expect them to fall into their boots, hit the starter and be roaring on the way while they're still putting on wet-gear.

That's the way it is with you and your outfit. Uncle Sam may have to turn in the "alarm" any time.

He expects you to be ready. He expects your equipment to be ready. Instant readiness is what he's got to have—no "Hold it while we get everything fixed up."

You've got to be able to go at any time with what you've got. And in this jet age, that could mean you'll be shooting, scooting and communicating in some spot 10,000 miles away tomorrow morning.

You can keep your equipment ready to go with the right kind of operation, care and maintenance. Keep it adjusted right. Never bang it up. When something goes wrong that you can't fix, get the word to your unit repairman. Keep your gear's records up-to-the-minute so you, your sergeant and your CO can see its condition in black-and-white. Also, keep your equipment's tech manual and Equipment Serviceability Criteria (ESC) TM handy; know and use them.

So, to go with what you've got, *be* ready. Don't wait to get ready; it might prove fatal.

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Supply 3, 5, 10, 13, 15, 18, 19, 20-21, 23, 24, 25, 26, 49, 55

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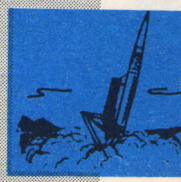

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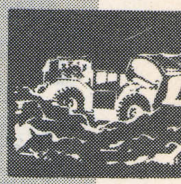

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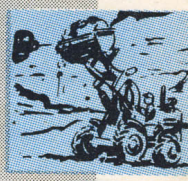

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HERC NOTES

FOR YOUR NIKE-HERCULES LAUNCHER . . . A FILTER

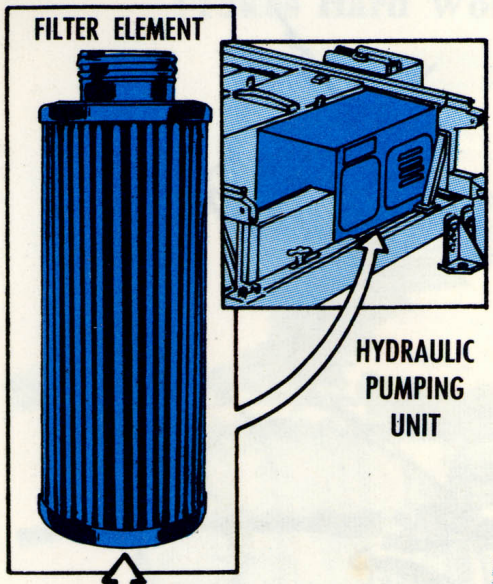
Funny the way things will go along real smooth-like for a long spell . . . and then whammo — troubles.

Take the hydraulic pumping unit on your Nike-Hercules launcher as a f'rinstance. It was a rare day when you heard a guy complain about the two filter elements in the pumping unit collapsing. Lately, tho, more people are talking about having collapsing filter element problems.

What gives?

For one thing, dirty hydraulic fluid. Stuff that doesn't belong in the fluid clogs the pores of the elements in the missile hydraulic pressure fluid and the launcher pressure fluid filters. And if the fluid can't get through the elements, the things collapse.

The answer to this kind of dirty fluid is to drain it at least every three months — the way it says in LO 9-1400-250-20. And don't forget that note on page 13 — "The hydraulic filter elements must be replaced during all fluid changes."



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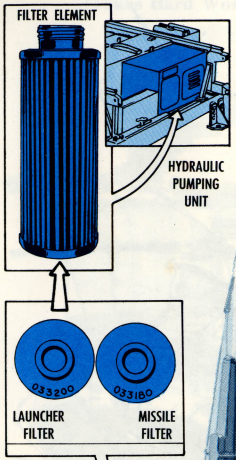


TIP AND OTHER HINTS

Another deal that'll give you filter element woes is the elements themselves.

To look at 'em, you'd swear the missile element's the same as the one for the launcher. Not so. The missile element has pores that measure two microns and the launcher element has 10 micron pores.

The smaller holes let only three gallons of fluid pass through the missile element every minute . . . while 10 GPM get through the bigger-holed launcher element. And that's where the rub comes in.

If you happen to mix up the elements, the launcher hydraulic fluid will be moving under too much pressure to get through the two micron-sized missile element holes. Welcome to the Collapsed Element Club.

The switch would lead to different troubles for your missiles. The launcher element, with its bigger pores, would let stuff get through to the birds — junk that just doesn't belong in them.

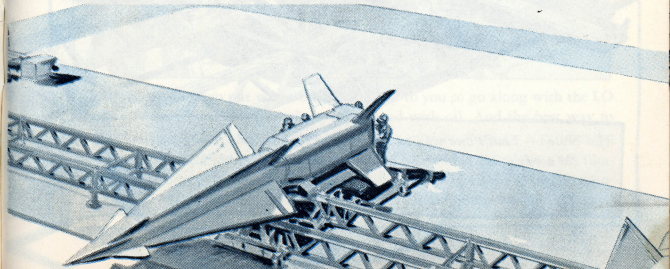
In other words, it's a good idea to be extra careful when you install those elements. The boxes the elements come in might not contain what they say on the outside. So double-check by looking at the manufacturers' numbers stamped on the elements. Bendix P/N 033180 or Purolator P/N 54873-1 is for the missile filter . . . and Bendix P/N 033200 or Purolator P/N 54873-3 goes in the launcher filter.

LEAVES YOU SCREECHLESS

While some guys are having fits about filter elements, others are talking about the screeching that grates their ears when their launcher is elevated.

It's a good bet that the noise comes from a mixture of air and hydraulic fluid going through the priority valve. And seeing's how the air doesn't belong there, you can get rid of the screeching by bleeding off the air. And bleed the system like it's never been bled before.

Some launchers never develop a loud racket because of air in their hydraulic system. Others do . . . and it means getting rid of the air whenever the noise starts.



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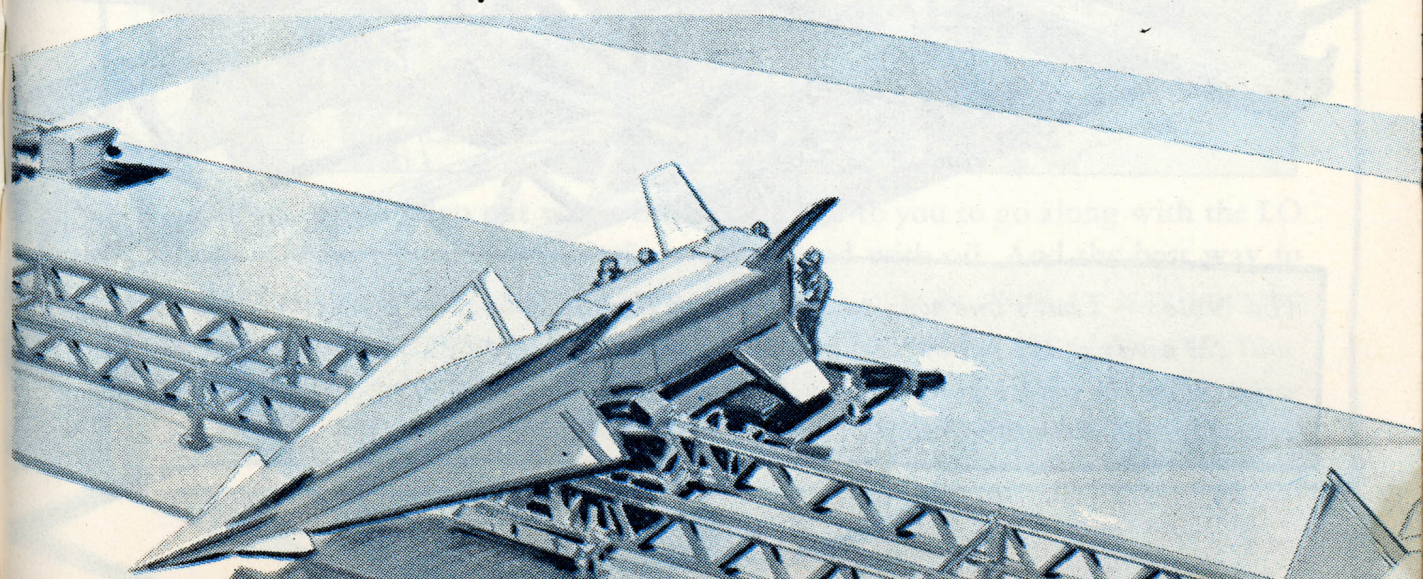
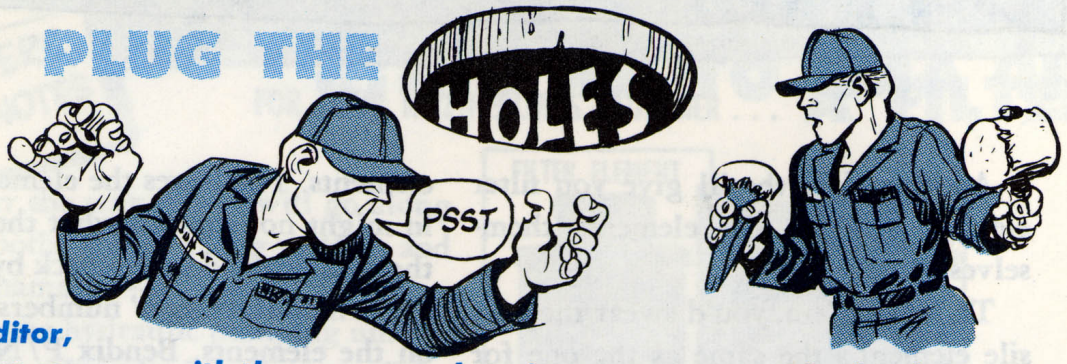
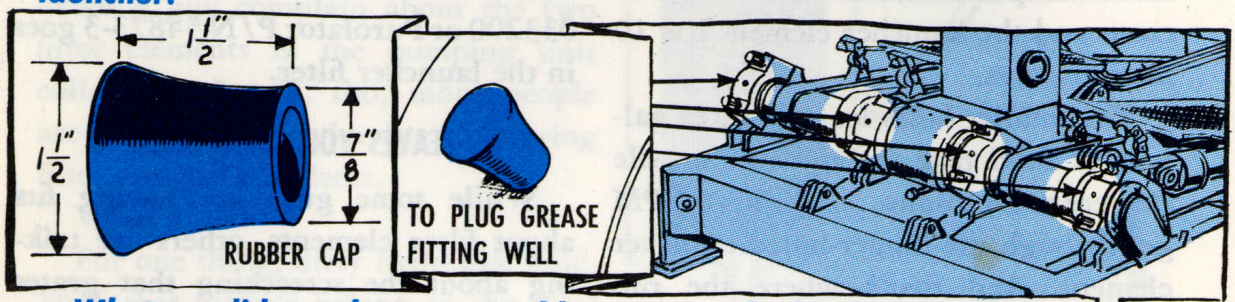


PLUG THE HOLES



Dear Editor,

We've come up with the answer to keeping rust, water and what-have-you out of the grease fitting wells on the main trunnion of our Nike-Hercules launcher.



What we did was buy some rubber caps — the kind you use on table and chair legs to keep from marring a floor. The ones we picked up are 1½-in across the widest part . . . ⅞-in across the other end . . . and 1½-in long. We pushed the narrow end of each cap into the wells. And now nothing gets in them.

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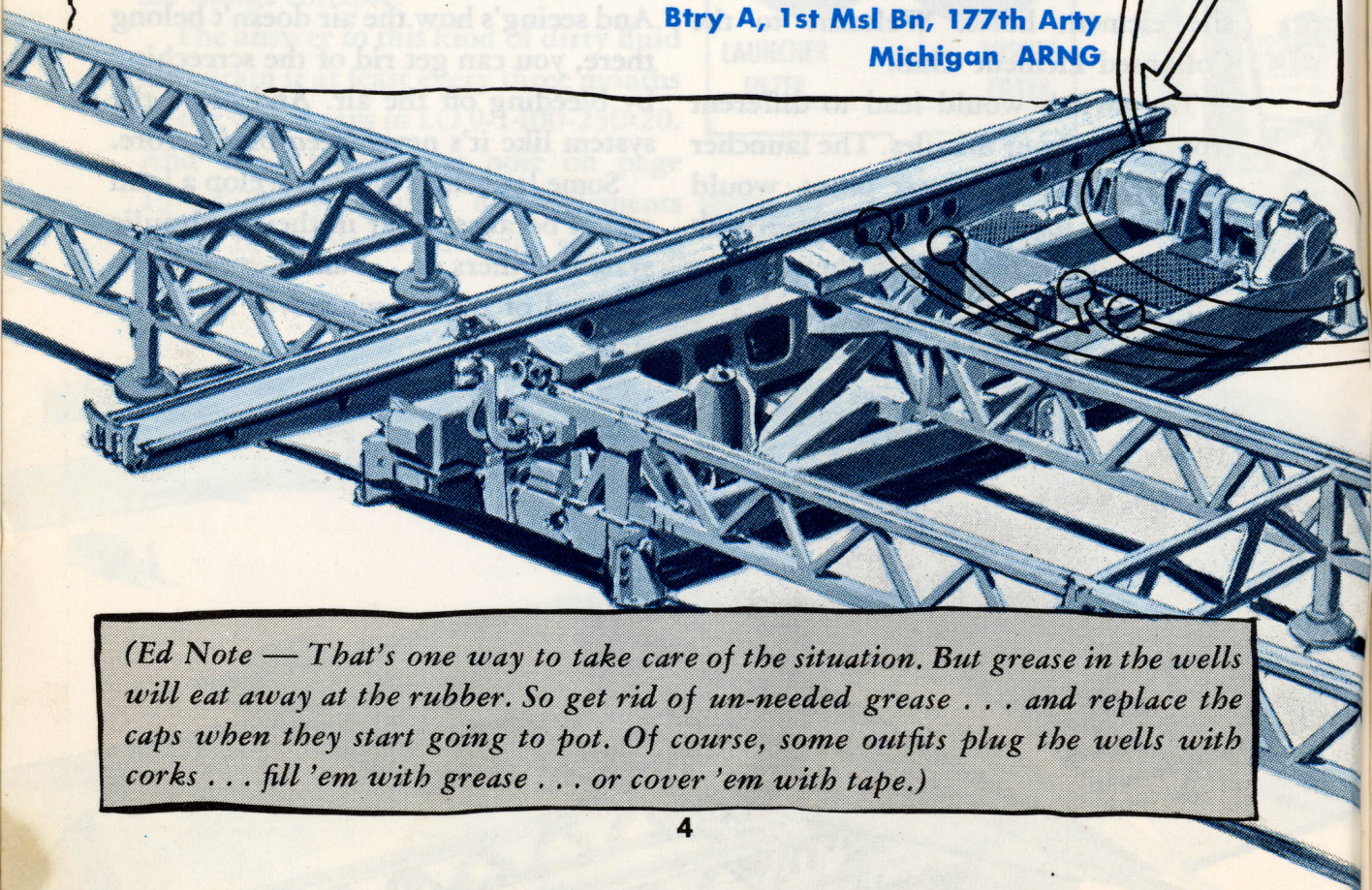

(Ed Note — That's one way to take care of the situation. But grease in the wells will eat away at the rubber. So get rid of un-needed grease . . . and replace the caps when they start going to pot. Of course, some outfits plug the wells with corks . . . fill 'em with grease . . . or cover 'em with tape.)

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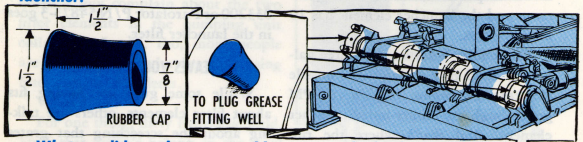

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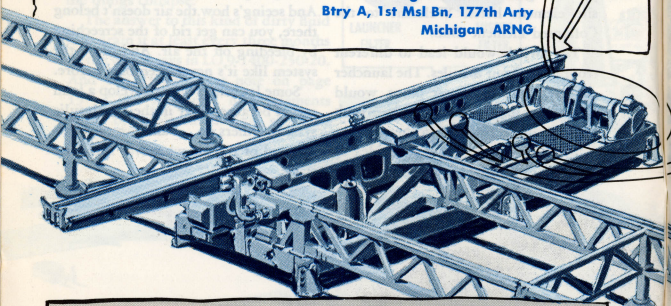

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ONLY ONE ANSWER

Dear Half-Mast,

True or false?

The tracks on our Nike-Hercules launching-handling rail get painted with OD paint.

SFC W. R.

Dear Sergeant W. R.,

False.

TB 9-337 (Mar 61) says on page 10 to use aluminum lacquer on "aluminum clad steel." And that's just what the tracks were when they left the assembly line — wrapped in aluminum.

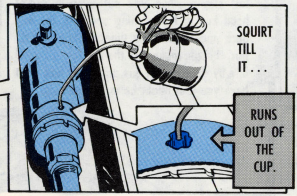
Half-Mast

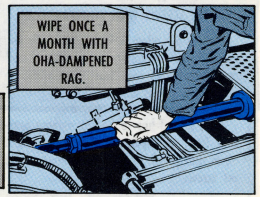
FILL THE CUP

Your troubles are over . . . or they will be once your support unit gets around to your Nike-Hercules or Improved Herc site and applies MWO 9-1440-252-30/23 (26 May 64).

That's the MWO that puts oil cups on the power and equilibrator cylinders for your launcher.

'Course, the cylinders already have holes in 'em for shooting in OHA on the wipers once a month the way it says in LO 9-1400-250-20. Trouble is, rain has gotten into the holes and sure has fouled up cylinder rods with rust and pitting — two bad deals that really can chew up the wipers.





The oil cups'll keep out water but it's still up to you to go along with the LO when it comes to keeping the wipers dampened with oil. And the best way to do this is to squirt it in slow-like, so's it'll have time to work its way into the wipers. And don't stop squirting until the oil runs out the top of the cup.

It wouldn't hurt to wipe the rods monthly with a OHA-dampened rag . . . and at least once a week if you're in a spot where the dew hangs heavy.

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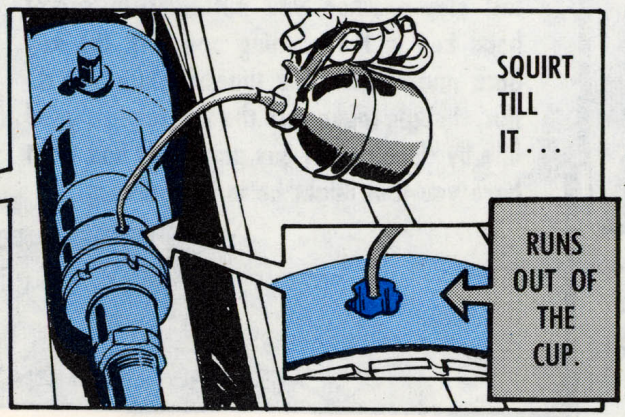

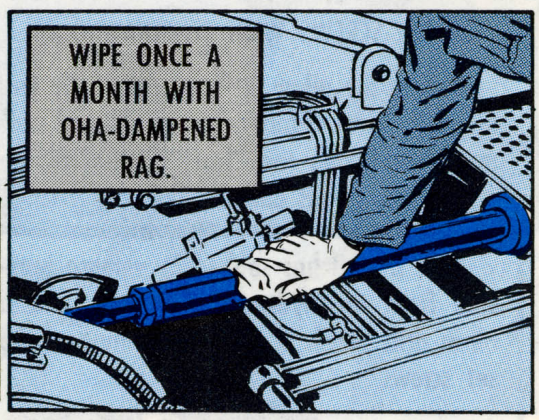

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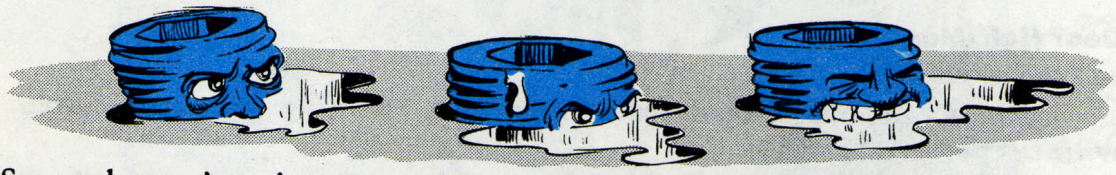
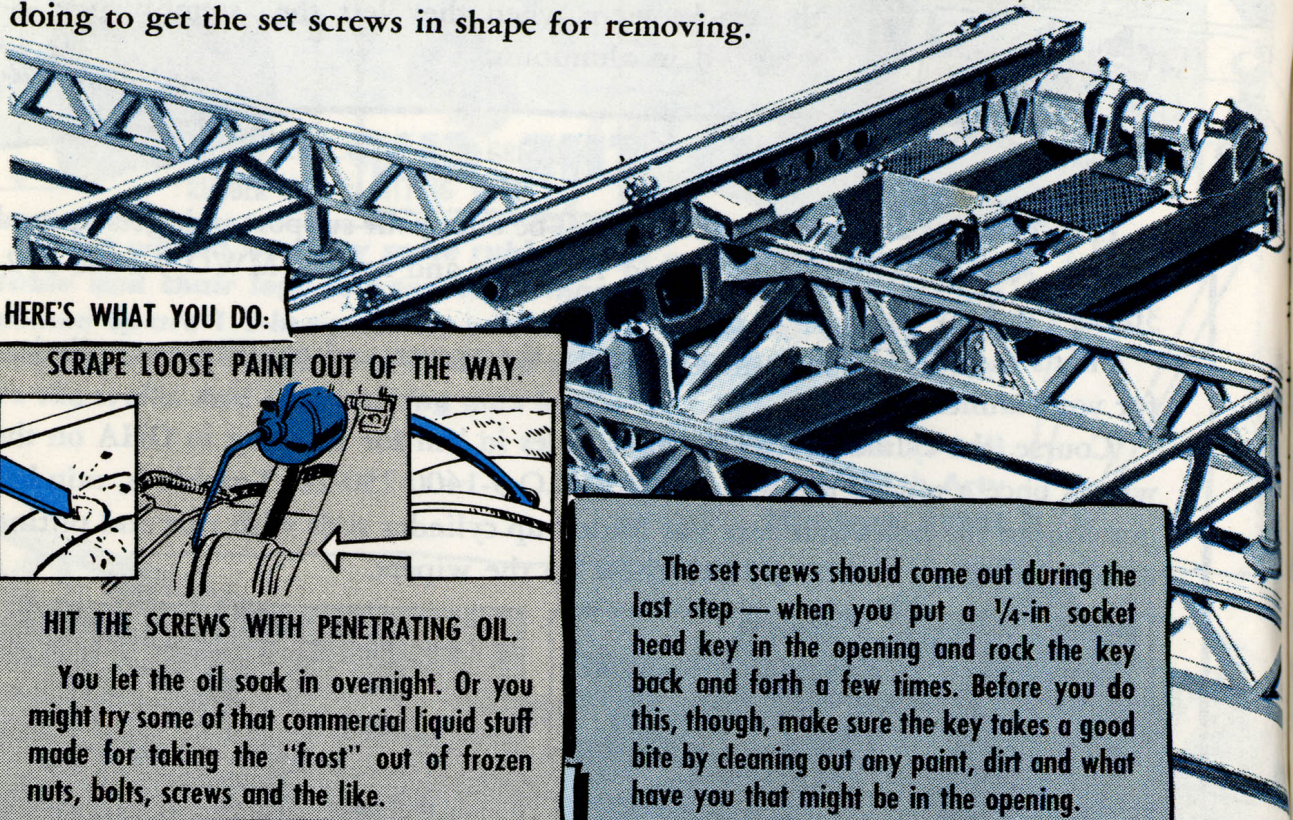
LUBE THOSE PINS



So maybe you've given up trying to lube the strut assembly trunnion pins on your Nike-Hercules launcher because you can't get at them.

You know . . . the set screws won't loosen so you forget about squirting penetrating oil into the pins monthly, the way the note says on page 9 of LO 9-1400-250-20.

Don't give up so easily—not when all it takes (most of the time) is a little doing to get the set screws in shape for removing.



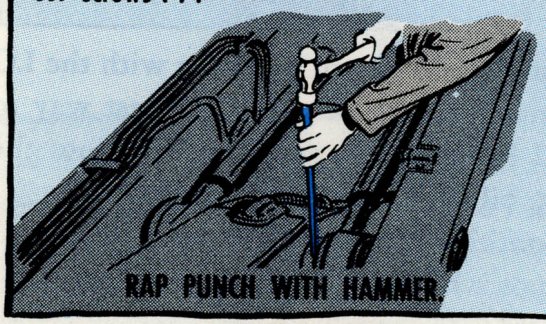
HERE'S WHAT YOU DO:

SCRAPE LOOSE PAINT OUT OF THE WAY.

HIT THE SCREWS WITH PENETRATING OIL.

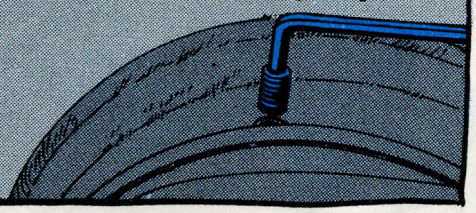
You let the oil soak in overnight. Or you might try some of that commercial liquid stuff made for taking the "frost" out of frozen nuts, bolts, screws and the like.

After the oil has soaked in, release pressure from the hydraulic system . . . put a 1/4-in drift punch in the hex opening of the set screws . . .



RAP PUNCH WITH HAMMER.

The set screws should come out during the last step—when you put a 1/4-in socket head key in the opening and rock the key back and forth a few times. Before you do this, though, make sure the key takes a good bite by cleaning out any paint, dirt and what have you that might be in the opening.



If the things still don't budge, you need help from your support unit.

No matter who loosens the set screws, head off future trouble by slippin' the threads some penetrating oil while you're working on the trunnion pins.

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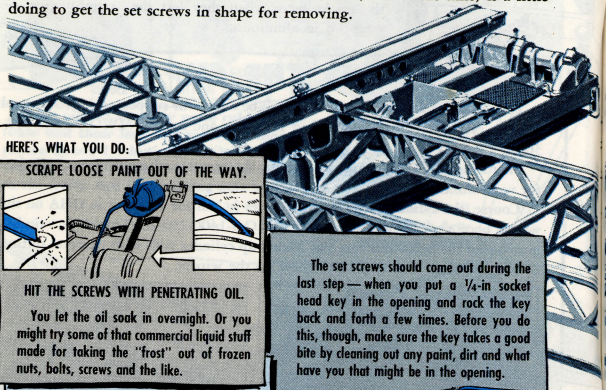


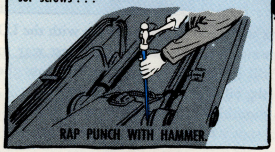
HERE'S WHAT YOU DO:

SCRAPE LOOSE PAINT OUT OF THE WAY.

HIT THE SCREWS WITH PENETRATING OIL.

You let the oil soak in overnight. Or you might try some of that commercial liquid stuff made for taking the "frost" out of frozen nuts, bolts, screws and the like.

After the oil has soaked in, release pressure from the hydraulic system . . . put a ¼-in drift punch in the hex opening of the set screws . . .

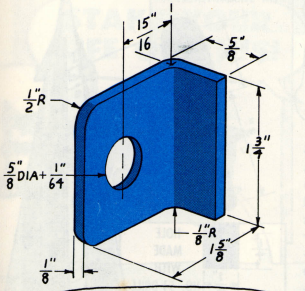


The set screws should come out during the last step — when you put a ¼-in socket head key in the opening and rock the key back and forth a few times. Before you do this, though, make sure the key takes a good bite by cleaning out any paint, dirt and what have you that might be in the opening.

If the things still don't budge, you need help from your support unit.

No matter who loosens the set screws, head off future trouble by slippin' the threads some penetrating oil while you're working on the trunnion pins.

NO STRINGS ATTACHED

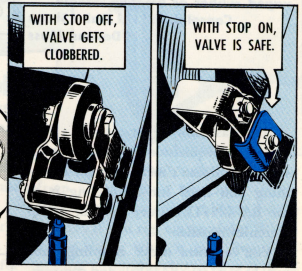


THE **STOP** IS MADE FROM ⅛-IN. LOW CARBON STEEL AND IS GIVEN A COAT OF PRIMER AND THEN SOME GREEN PAINT AS A FINISHING TOUCH.

Tie back the safety devices — that's what you're supposed to do when you remove the rack assemblies and then raise and lower your Nike-Hercules launcher.

As you know, if you don't tie the safety devices out of the way while you cycle the launcher, they'll get clobbered by the erecting beam cylinders. And the devices themselves slam into the air bleed valves, making the valves look like they had come face-to-face with a sledgehammer on the move.

The trouble with winding string around the safety devices to keep them out of the way is that it's a temporary deal. What you need is something that's built to last . . . and here it is — a stop that takes the place of the flat washer on the safety device assembly and is left there.



LUBE THEM — BUT

Something else about those safety devices. LO 9-1400-250-20 says on page 9 to hit the rollers and bearings with PL monthly. Actually, it's only the bearings for the rack arms and the sleeve bearings in the rollers that get lubed. The rollers want to be coated with green paint.

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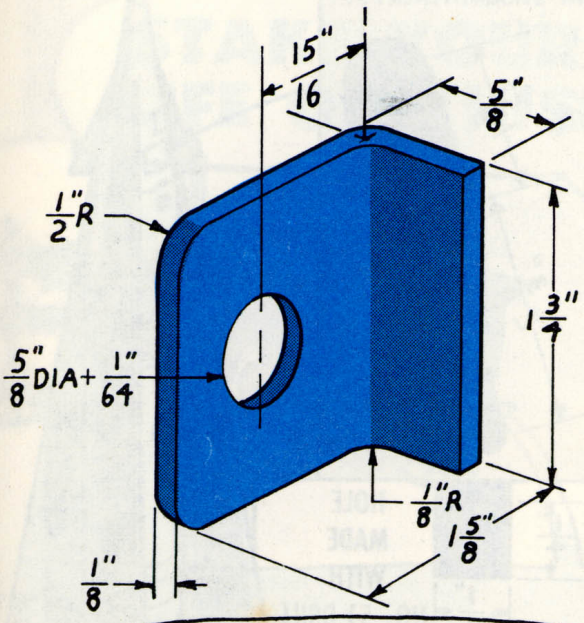

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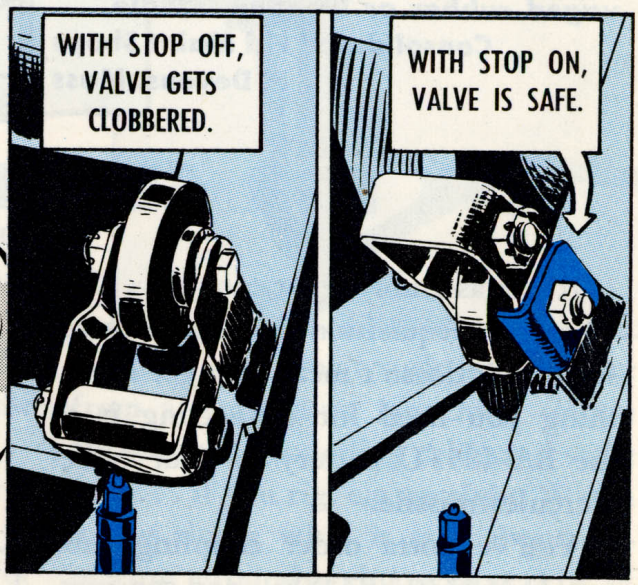

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MONEY SAVER

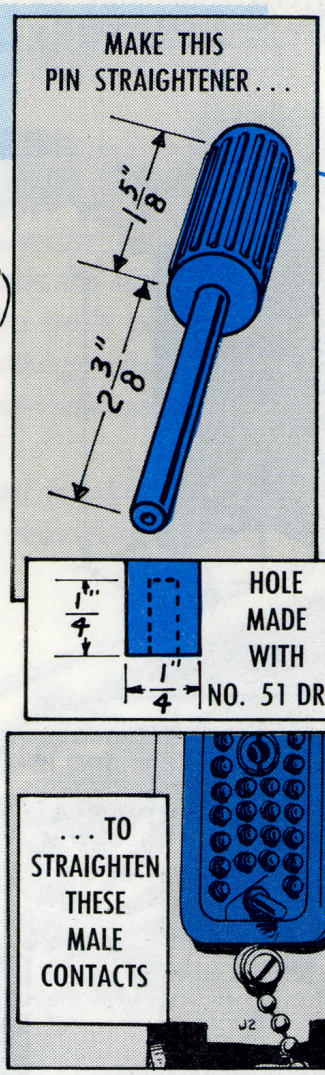
Dear Editor,

The Nike-Hercules batteries we support were having troubles in spades with the male contacts on the J2 plug of the missile's transponder control group. You know . . . the contacts would get bent, making it darn near impossible to hook up the cable assembly (P/N 8521613) between the J2 plug and the J1 plug on the electrical test set (P/N 9034602).

We came up with a pin straightener that has kept more than one connector from going to the junk heap.

All that's needed are some ¼-in drill rod, about 4-in long, and a salvaged rubber or wooden handle.

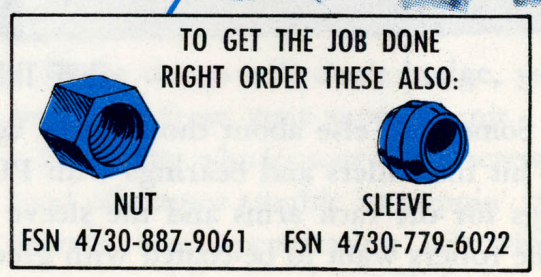
Consolidated Fld Maint Shops
Ft Devens, Mass



ASK FOR ALL THREE

It's an assembly right enough . . . but when you requisition the ventilator assembly, it doesn't mean you get everything you need for connecting it to the BA-485/U battery in your Nike-Hercules missile.

You've gotta order coupling tube nut, FSN 4730-887-9061, and compression sleeve, FSN 4730-779-6022, separately if you want all that's needed to do the job. Like the assembly, the nut and sleeve are listed in TM 9-1410-250-12P/1/1 (Feb 64).



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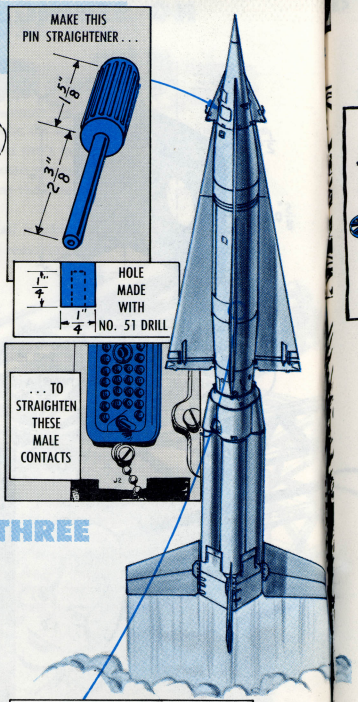

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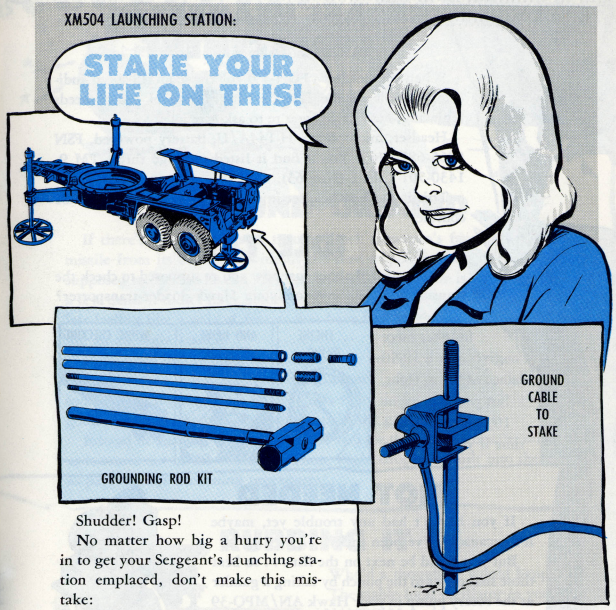

Shudder! Gasp!

No matter how big a hurry you're in to get your Sergeant's launching station emplaced, don't make this mistake:

Don't get caught dead using the static grounding cable instead of the grounding cable and stake.

A mistake like this just might carry the death penalty. And no kidding.

The static line's OK, maybe, for draining off static electricity when you're opening a rocket motor container. Then you simply battery-clip the cable to the ball study on the aft end of the rocket motor container.

But it sure won't suck jolting juice from a charged-up launching station the way the grounding cable and stake will . . . if you rig 'em up right. Which means doing what it says about emplacing ground rods on page 114 of TM 9-1440-301-12 (Mar 65). The ground rods mentioned in the TM replace the ones you've been using and are in a kit that comes with MWO 9-1440-301-30/25 (19 Jan 65).

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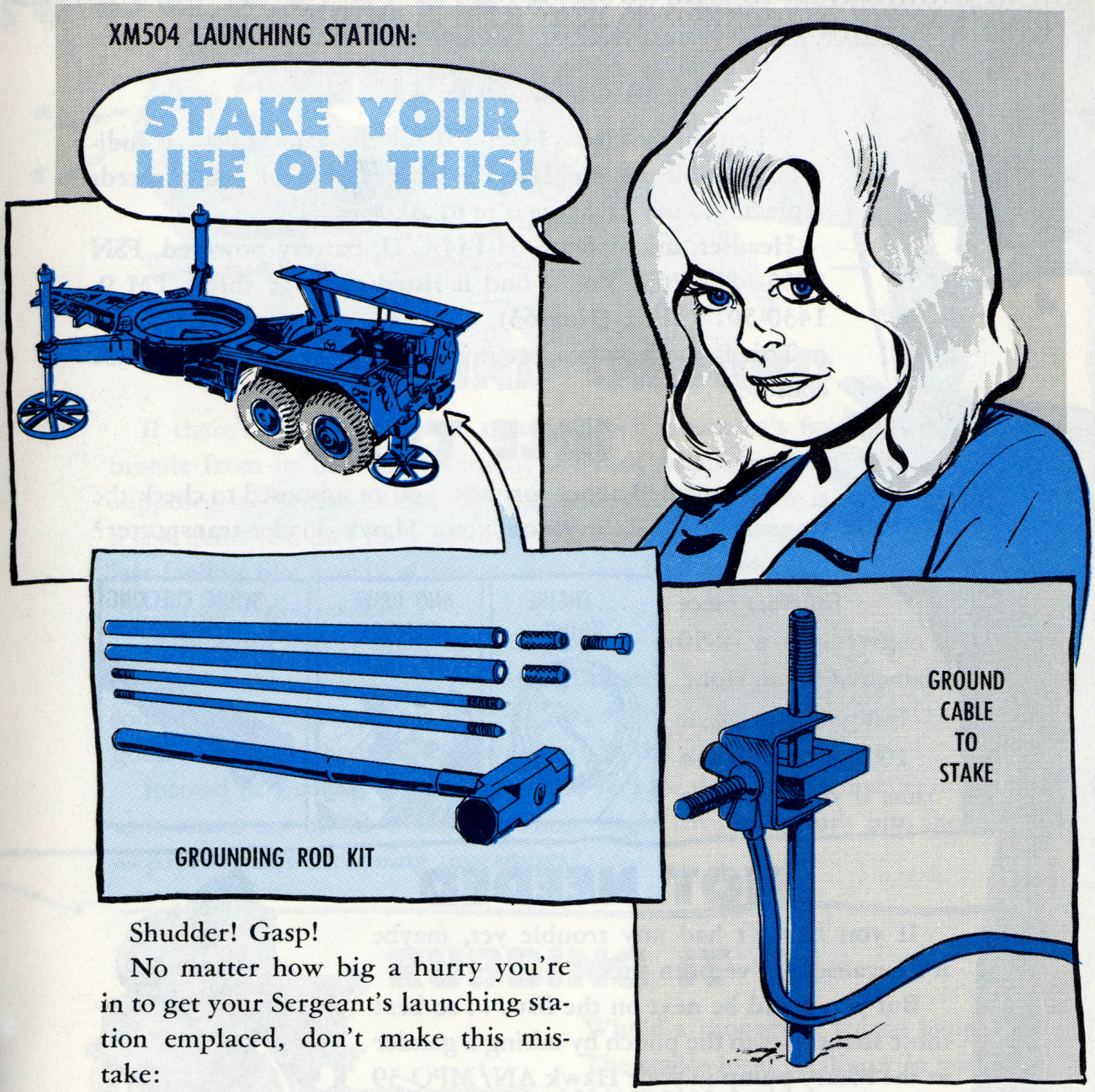

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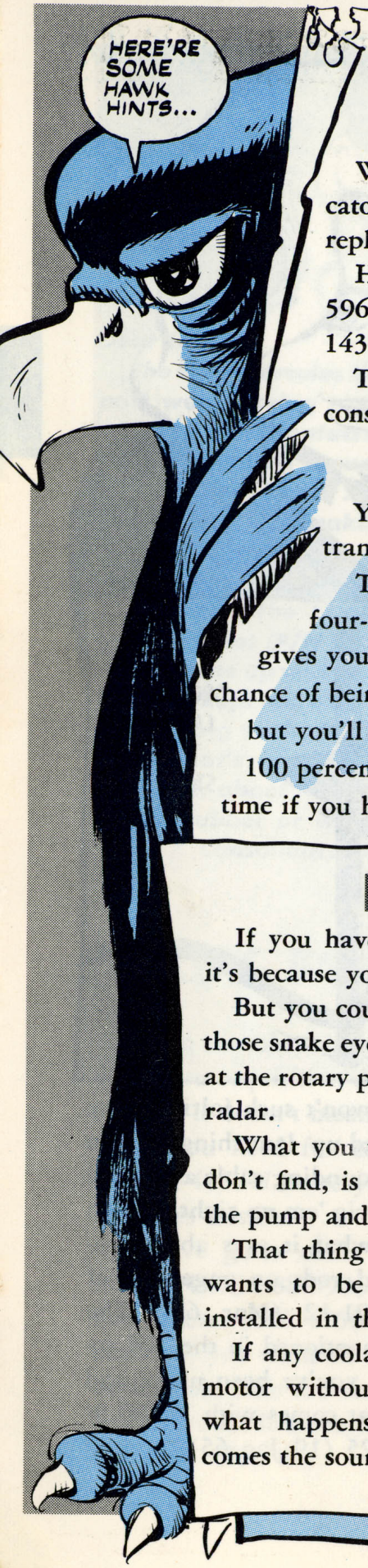


ASI HEADSET REPLACEMENT

When the headset (TDH-39) for the azimuth-speed indicator console in the Hawk's battery control center needs replacing, here's what you're to ask for:

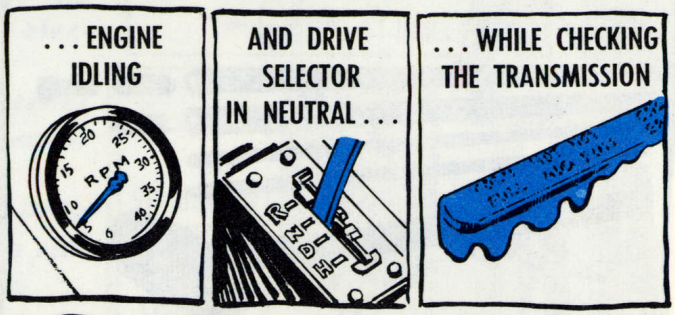
Headset, microphone, H-144A/U, battery powered, FSN 5965-682-2769. You'll find it listed on page three, TM 9-1430-501-12P/1 (Nov 63).

This is the best headset in the supply system for the ASI console.

IDLE TALK

You confused about just how you're supposed to check the transmission oil level on your Hawk loader-transporter?

Tossing a four-bit piece gives you a 50-50 chance of being right, but you'll be right 100 percent of the time if you have the



NOT NEEDED

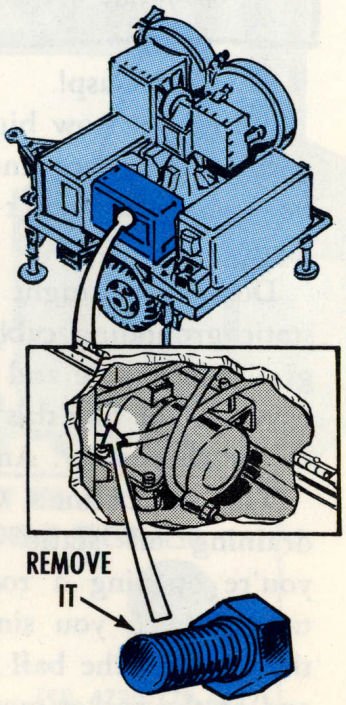
If you haven't had any trouble yet, maybe it's because you've been lucky.

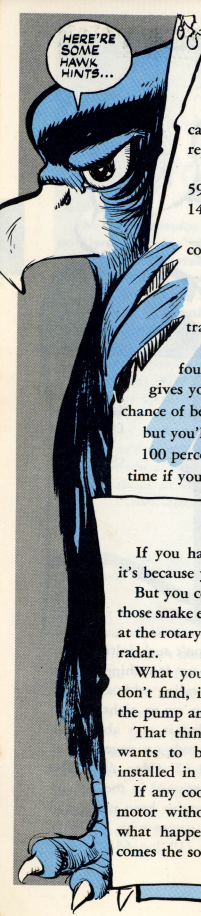
But you could be next on the list . . . so beat those snake eyes to the punch by taking a gander at the rotary pump in your Hawk AN/MPQ-39 radar.

What you want to look for, and hope you don't find, is a plug on the chamber between the pump and pump motor.

That thing is strictly a shipping plug and wants to be removed when the pump is installed in the radar.

If any coolant leaks and gets into the pump motor without any way to get out (which is what happens with the plug in) . . . ps-s-s-st comes the sound of a motor burning out.





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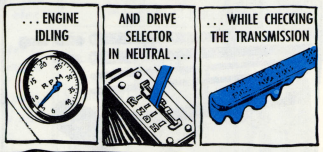

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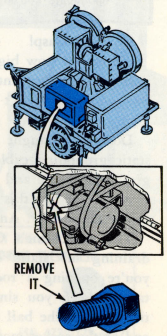
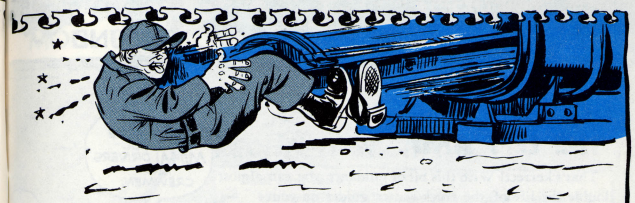




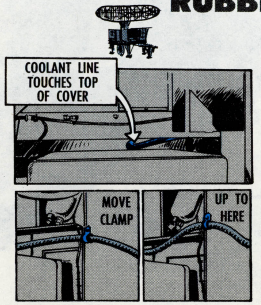
ROUND GROUND

If there's one thing that'll turn a Hawk crewman's face red, it's to pull a missile from its container without the bird stopping along the way—like it's supposed to. Before he can say "terra firma," the missile is on the ground, with a few dents it didn't have before it left the container. And the components are left feeling like a pair of ivories that have been bouncing against the wall during an all night session.

If the stops that're made for bringing the missile to a halt when it's partway out of the can are missing from the container, you can pull out the round with some steady tugging. Just because some guy didn't install the stops is no real good excuse for the missile to wind up on the ground.

Instead of rushing things, listen and feel for those two drops the missile takes as it comes out of the container. Those slight drops are built into the container as part of your decanning procedures.

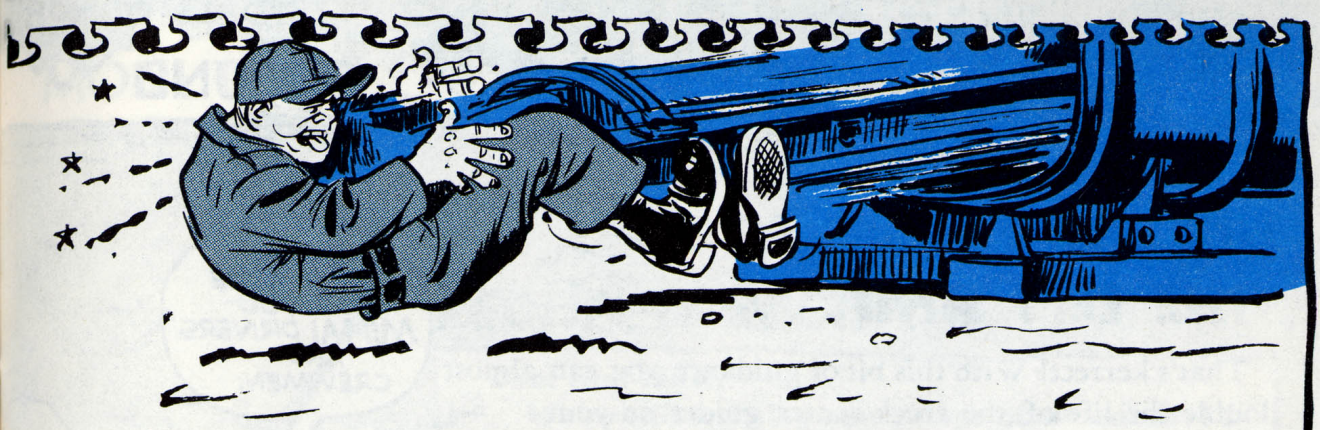
RUBBING IT IN



Who'd a thought it would happen?

The stable local oscillator in your Hawk AN/MPQ-35 radar gets put on rubber shock mounts. And the oscillator vibrates the way it should. But when the pulse acq is fired up and the oscillator is vibrating away, it rubs against the coolant line. And all that rubbing puts a hole in the oscillator cover.

If you're having this kind of trouble, ask your support people to move the coolant line support clamp up two inches. This'll put the line away from the oscillator with room to spare.



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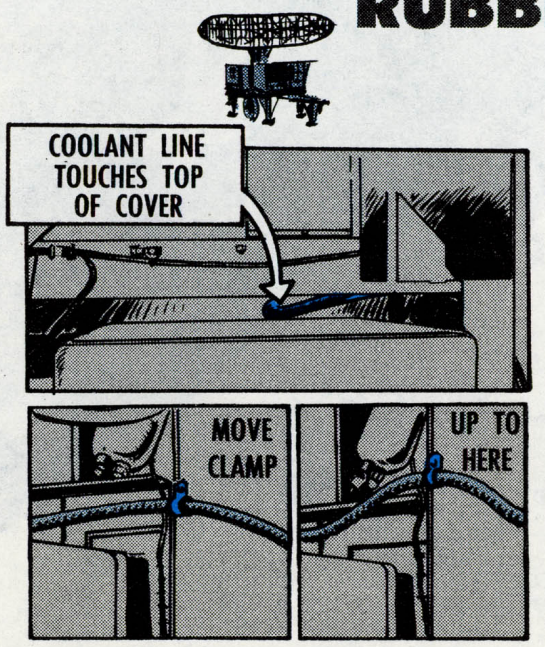

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FOR MORE CENTER GUIDE LIFE . . .

THE RIGHT GOES TO THE LEFT AND . . .

That's kerrect! With this bit of guidance you can almost double the life of the track center guides on your M114- series Recon carriers.

Here's the trick — Keep your eye peeled on the outer row of center guides for signs of unusual wear. Seems that under some conditions — 'specially mud — the outer row will wear faster than the inner row of guides.

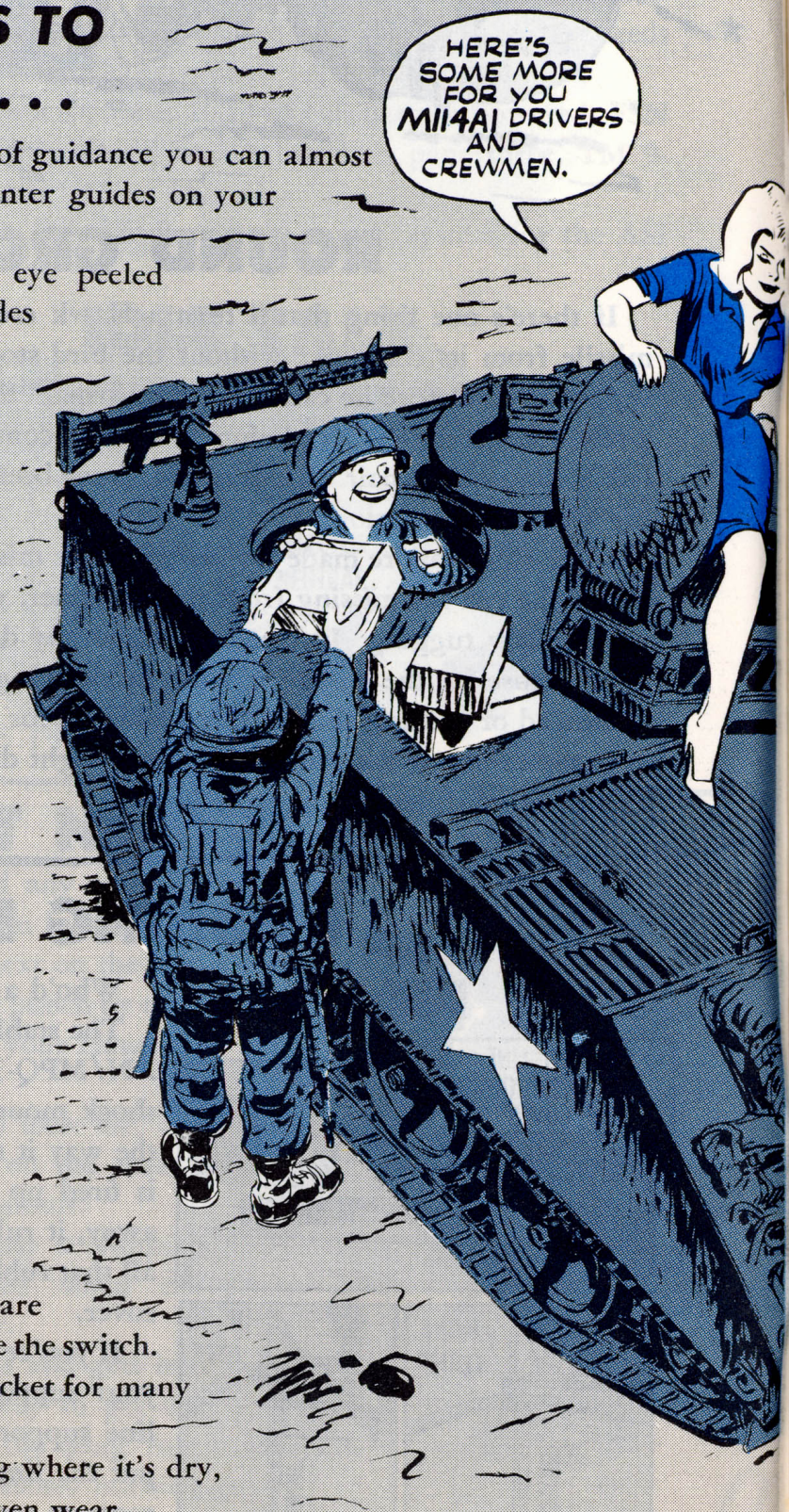
Not only should you eye the guides for wear, but once in a while take the time to finger feel 'em for size. If you find the outer guides are almost worn thru — make with the switch.

Take the right-hand track and switch it to the left side . . . and the left to the right. This puts the outer guides on the inner sides of both tracks.

Don't wait till the guides are too worn down before you make the switch.

This small PM action is the ticket for many more miles on the guides.

If your carriers are operating where it's dry, you may not run into this uneven wear.



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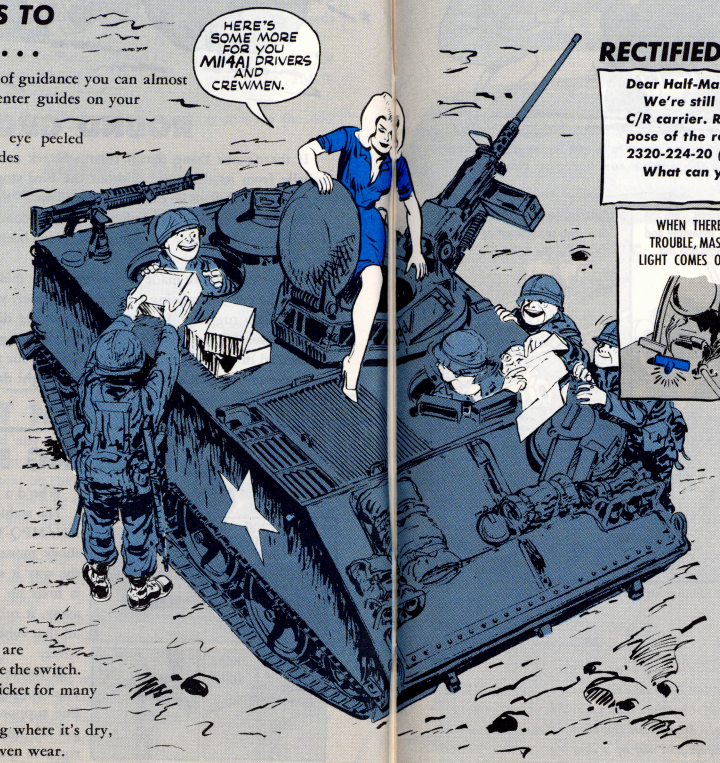


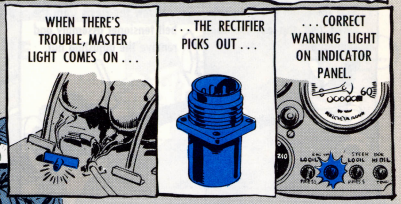
RECTIFIED RECTIFIER

Dear Half-Mast,

We're still learning new things about our M114 C/R carrier. Right now we'd like to know the purpose of the rectifier we see on page 136 in TM 9-2320-224-20 (Jan 65).

What can you do for us, Sarge?

CWO G. W. H.



Dear Mr. G. W. H.,

The rectifier picks out the correct warning light when trouble hits.

It works like this: When trouble makes the master warning light come on, you immediately look at your indicator panel to see which one of the four warning lights is beaming.

If the rectifier wasn't in the electrical system they'd all light up and you'd be left in the dark—it pin-points the problem area.

If you ever need one of these rectifiers, just ask for Semi-Conductor assy, warning light 10913771 FSN 2590-973-1178. It's on page 67 in the M114's newest supply manual, TM 9-2320-224-25P.

Half-Mast

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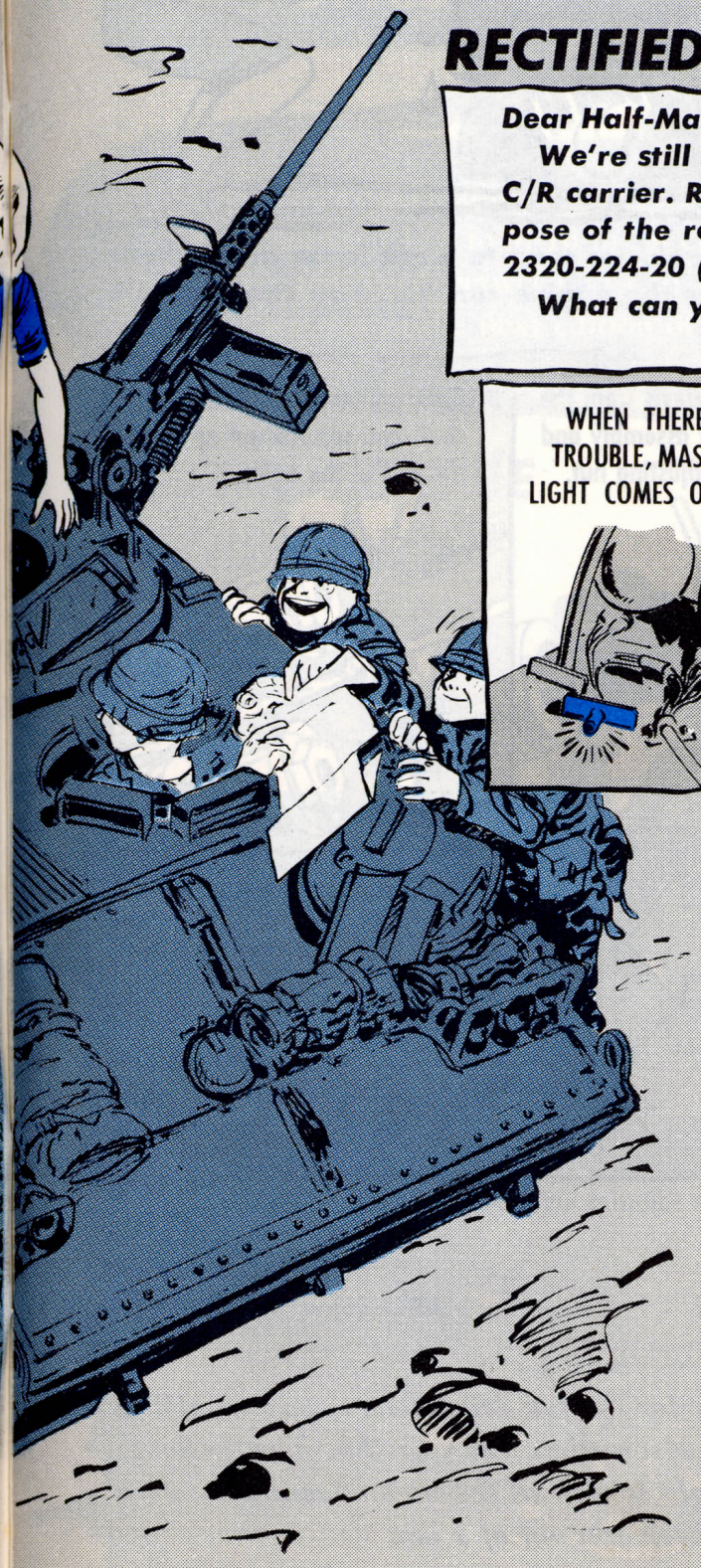

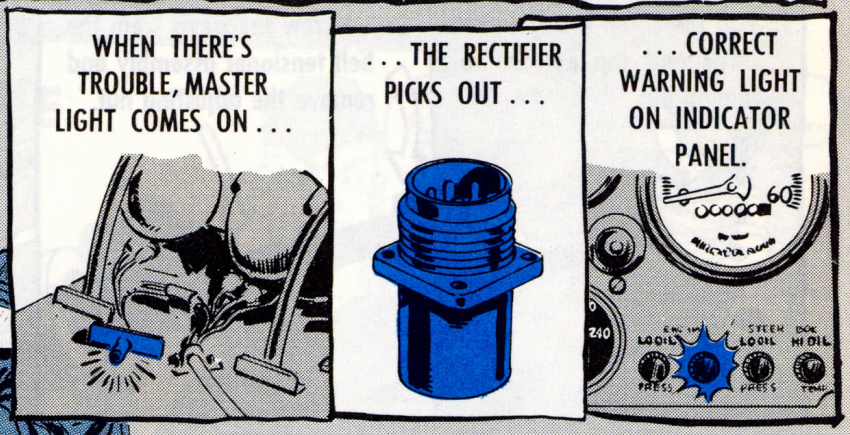

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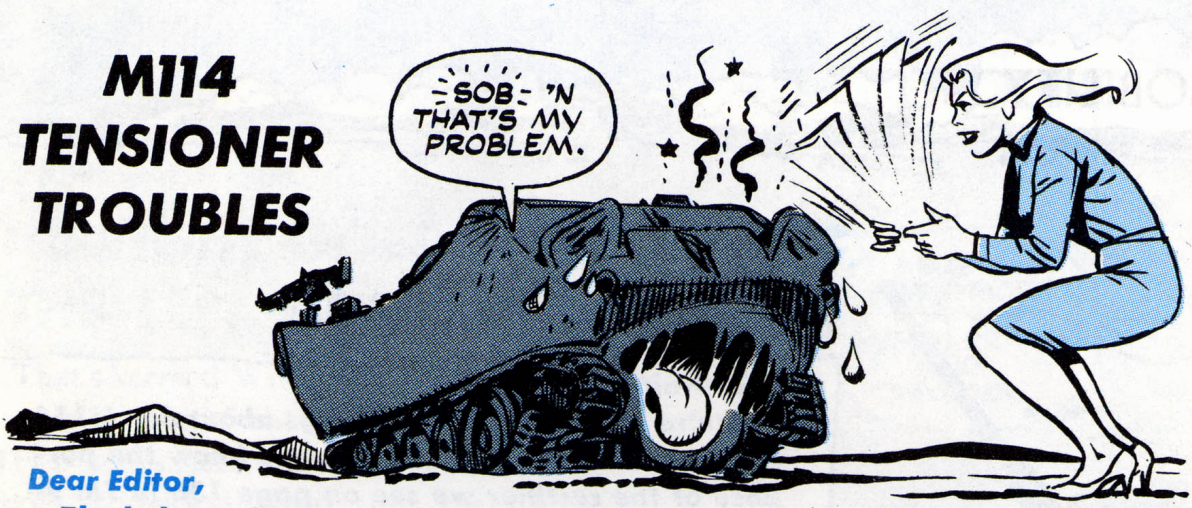
Half-Mast

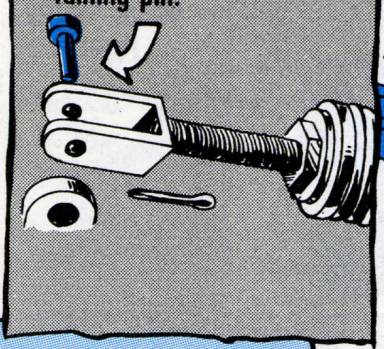
M114 TENSIONER TROUBLES



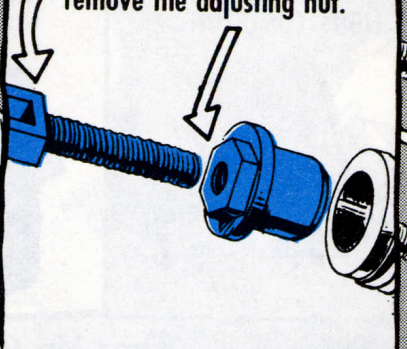
Dear Editor,

The belt tensioners on M114-series vehicles tend to work loose after about 2,000 miles of operation which makes the engine run hot. You can improve the belt tensioner by doing this:

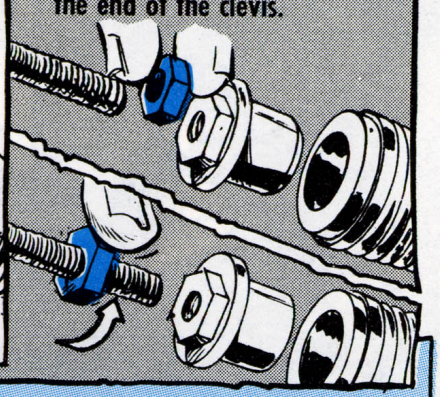
1. Pull the cotter pin from the clevis and slip out the retaining pin.



2. Unscrew the clevis from the belt tensioner assembly and remove the adjusting nut.

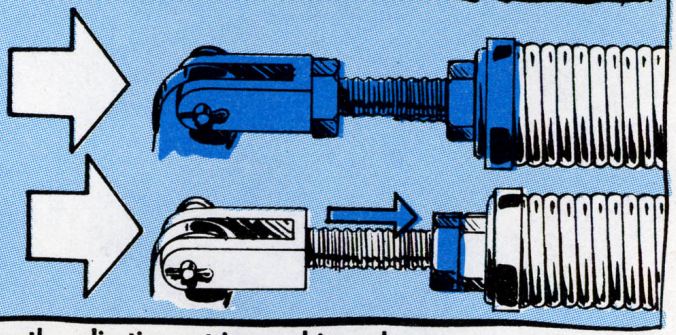


3. Put a jam nut over the clevis shaft and run the nut up to the end of the clevis.



4. Now assemble the clevis, the adjusting nut and the belt tensioner again and put the retaining pin and the cotter pin back.

5. Adjust the belt tension. When the adjusting nut is positioned right, run the jam nut down from the end of the clevis until it butts up against the adjusting nut.

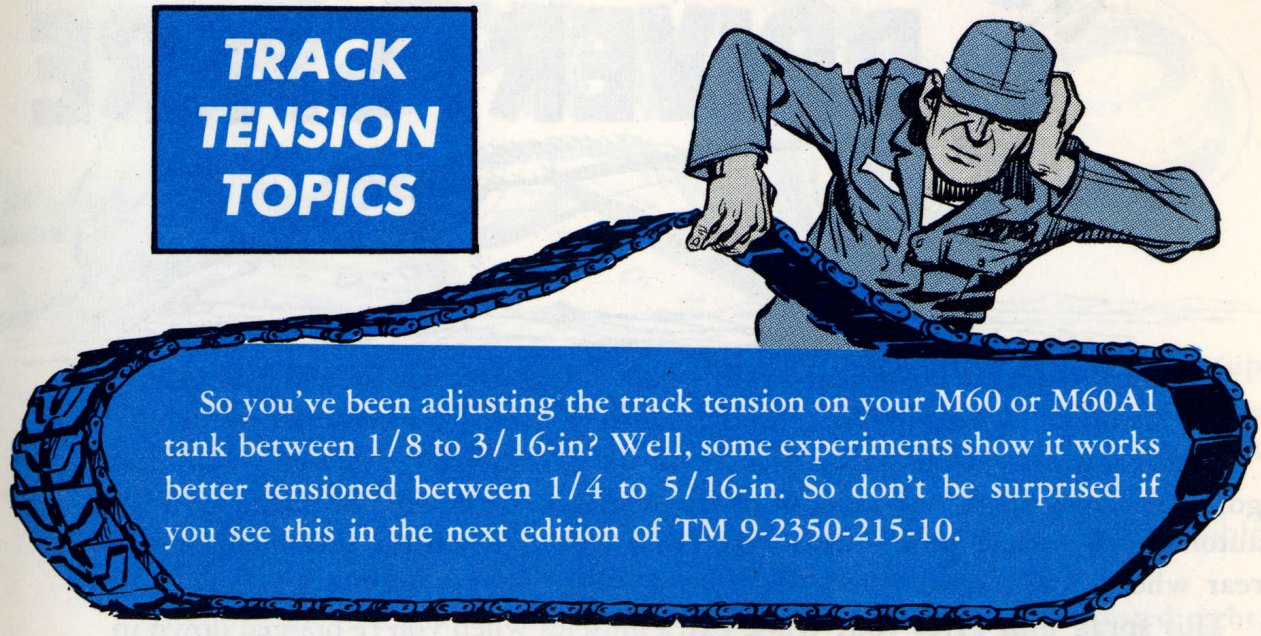


That's all there is to it. The jam nut will keep the adjusting nut jammed into place.

SSgt M. C. Page
APO New York 09039

(Ed Note—Good idea. A new tensioner for the fan drive belts is part of MWO 9-2320-224-20/3 scheduled to reach you sometime this year. The new tensioner is supposed to keep your belts at the right stretch all the time. Meanwhile, until you get the MWO, this jam nut will keep you out of a jam.)

TRACK TENSION TOPICS

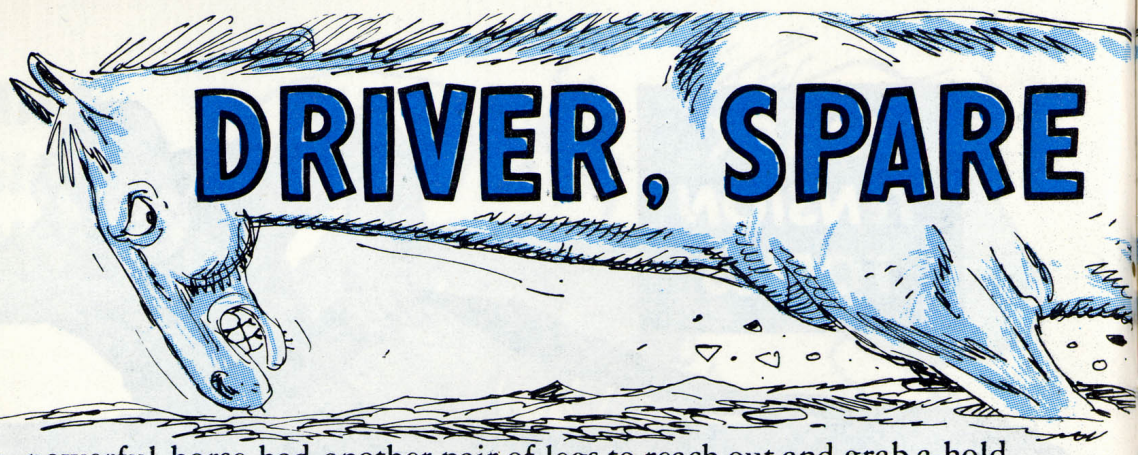


So you've been adjusting the track tension on your M60 or M60A1 tank between 1/8 to 3/16-in? Well, some experiments show it works better tensioned between 1/4 to 5/16-in. So don't be surprised if you see this in the next edition of TM 9-2350-215-10.

LOOK BEFORE YOU POUR

If you don't look real close before you pour oil into your M113 personnel carrier transmission you'll goop up the works for sure.

Some guys look at page 11 of LO 9-2300-224-12 (May 63) and get the **wrong** idea that 30-weight oil goes in the M113 transmission. Look again —and you'll find on page 18 that the M113 transmission takes 10-weight oil. That's right, use OE-10 at all times except in extreme cold. Then you use OES.

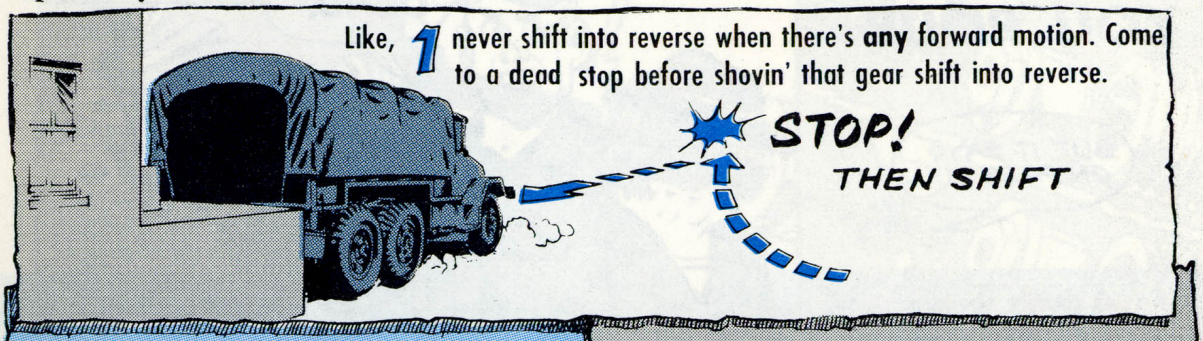


If a big, powerful horse had another pair of legs to reach out and grab a-hold when his other legs are havin' trouble gettin' a grip, he'd be better off.

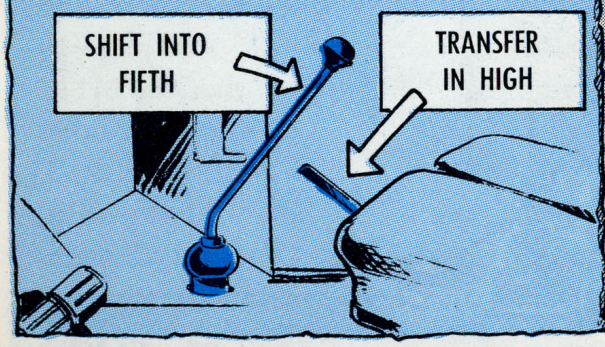
The workhorse of the Army, the six-by-six G742-series 2½-ton truck, has got those extra "legs," on account of its overrunning clutch, or sprag unit. It automatically pours power up to the front wheels when the intermediate and rear wheels lose traction.

This sprag unit gives your truck extra muscles when you're bogged down in mud or snow, and it should get the respect it deserves, 'specially in how you operate your truck.

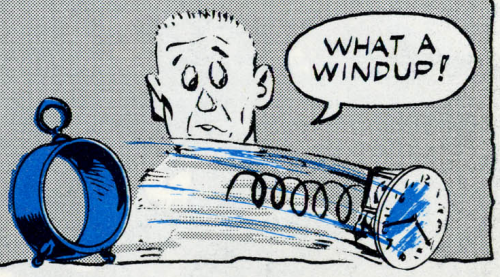
Like, 1 never shift into reverse when there's **any** forward motion. Come to a dead stop before shovin' that gear shift into reverse.



Or, 2 if your engine's conked out and you figure a tow will get you started, shift the transmission into fifth speed and shift the transfer into HIGH (up) ranges. O'course, you put the transmission in reverse if you're being towed backward, but forward towing is preferred. The transfer stays in HIGH either way, though.



And, 3 someone's goin' to think a Missouri mule's kick is like a love tap if he tangles with windup in the truck's power train. This windup comes from letting the truck drift forward while in reverse gear (or backward in forward gear). When the power train unwinds, it's like yanking a tight mainspring out of an ole' alarm clock—only a heckuva lot worse—and whoever's working on the truck when it lets loose can be hurt bad.



DRIVER, SPARE THAT SPRAG

If a big, powerful horse had another pair of legs to reach out and grab a-hold when his other legs are havin' trouble gettin' a grip, he'd be better off.

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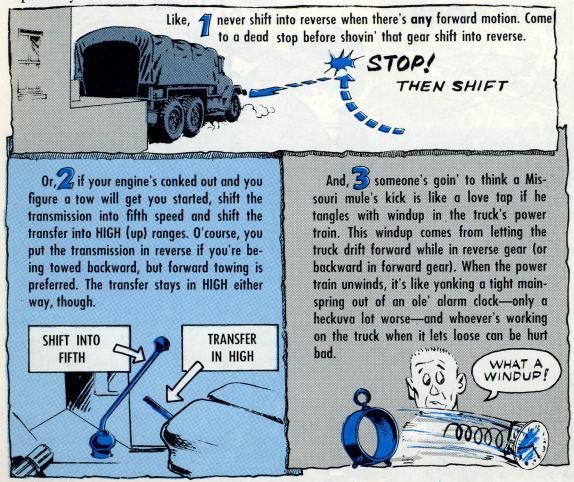
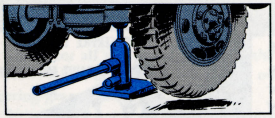


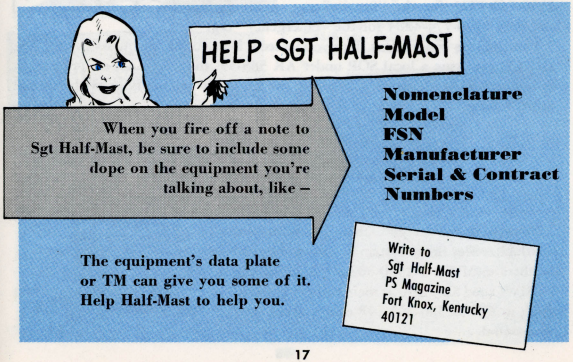
If you've let your truck pick up some windup going forward, just back up the same distance. Driving ahead takes out the windup you got drifting backward. If there's no room, or there's some other reason you can't move, jack up one front wheel to get rid of the windup.

You can guess your truck's got a bad case of windup if you have trouble shifting . . . or your gears are slipping . . . or the steering's hard.

If you want to know whether your transfer case sprag unit is adjusted right, your jacked-up front wheel should rotate easily in forward direction only when the transmission is in neutral, second, third, fourth or fifth gear. When the transmission's in first or reverse gear, the wheel should lock.



TM's covering the Reo's power train are TM 9-8023-2 (Mar 56), TM 9-8621 (Dec 53) and TM 9-8000 (Jan 56). Workings of the overrunning sprag unit are given in para 210, page 324 of TM 9-8000.



THAT SPRAG

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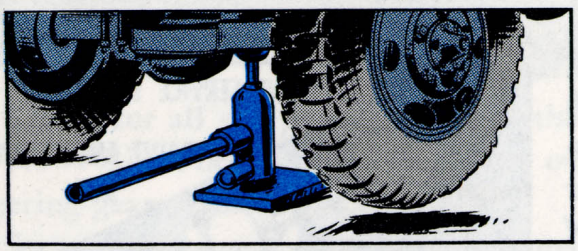

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HELP SGT HALF-MAST

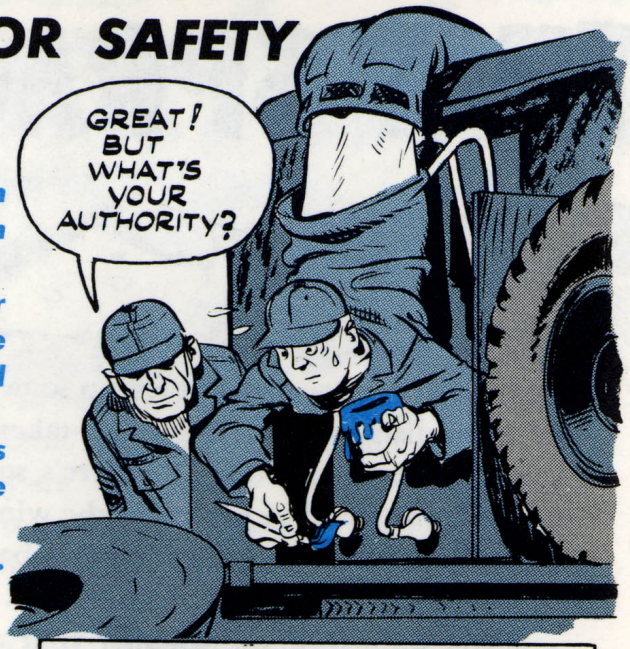
When you fire off a note to Sgt Half-Mast, be sure to include some dope on the equipment you're talking about, like –

Nomenclature
Model
FSN
Manufacturer
Serial & Contract Numbers

The equipment's data plate or TM can give you some of it. Help Half-Mast to help you.

Write to
Sgt Half-Mast
PS Magazine
Fort Knox, Kentucky
40121

PAINT FOR SAFETY



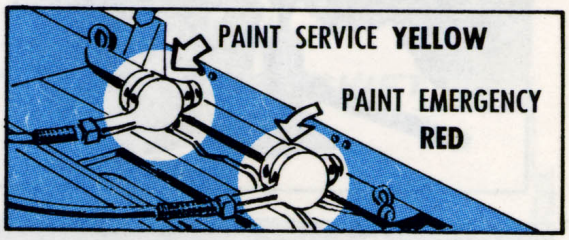
Dear Half-Mast,

I've been trying to find information for the painting of air connections on 2½-ton tractors and up.

On some vehicles the service air connection is painted yellow and the emergency air connection is painted red.

If you could tell me the regulations covering this information, it would be greatly appreciated.

PFC J. R. P.



Dear Private J. R. P.,

There is no DA regulation directly authorizing the painting of the connections.

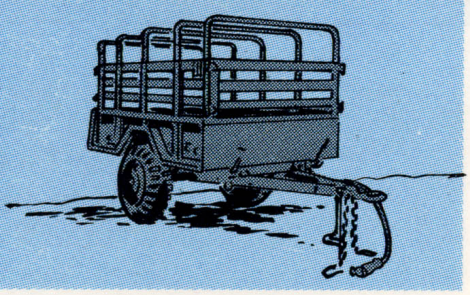
The vehicle couplings and trailer hoses are supposed to be marked with "Service" and "Emergency" identification tags. If they're painted over or missing, you can get 'em by using FSN 2590-740-9721 for the "Service" tag and FSN 2590-774-4284 for the "Emergency" tag.

Painting the connections, like you've seen, isn't out of the question, tho. The area CO can issue a local SOP under AR 385-55, the safety AR on prevention of motor vehicle accidents, and allow the marking of couplings with colored paint.

Half-Mast

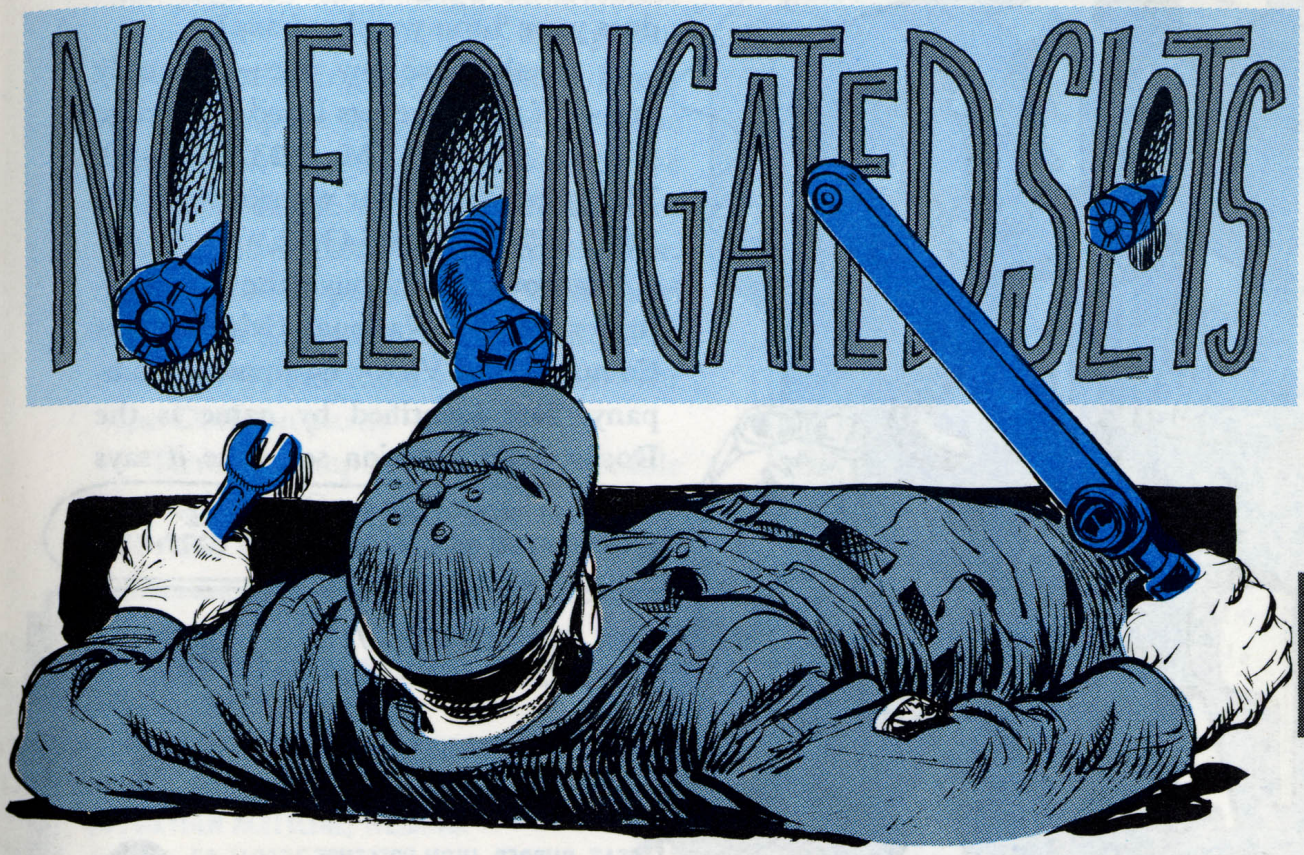
TRAILER BRAKE PARTS

Your support can get repair parts for the M101A1 trailer brake system by citing the part numbers in MWO 9-2330-202-30/1 and using the MWO and SB 9-150 as their authority. Parts aren't in TM 9-2330-202-14P or any other supply manual.



WITH A GOOD TIGHT BOLT . . .

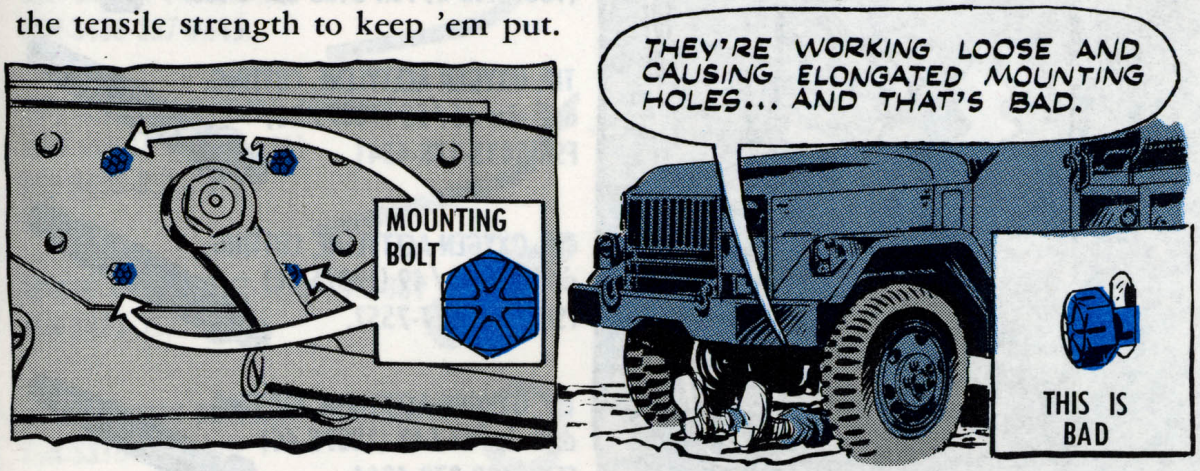
NO ELONGATED SLOTS



This is for all you proud owners of the 2½-ton M35A1 multifuel truck.

Now! Right now, is the time to get out and get under and look over your steering-gear mounting bolts.

Some steering-gear cases were mounted with locking bolts that don't have the tensile strength to keep 'em put.



Look 'em over good. And keep all mounting bolts tightened to 60-65 lbs-ft.

If any loose bolts or egg-shaped holes are found, put in all new locking bolts —but only those with FSN 5306-022-0724. Use this bolt only . . . a sub won't do the job.

And pass the word along . . . keep the bolts torqued to 60-65 lbs-ft and check 'em out at every "S" service.

Which cutting-and-welding torch set does your 5-ton wrecker have?

It should have any one—but only one—of the three sets listed in Change 3 (Jan 65) to TM 9-2320-211-10. This goes for all four wreckers, M246, M62, M543 and M543A2.

Two of the sets have the manufacturers listed—National Cylinder Gas Company and Victor Equipment Company. Not identified by name is the Dockson Corporation set. Like it says

THESE ARE THE REPLACEABLE PARTS FOR YOUR DOCKSON TORCH SET.

NUT, UNION: (18075:C-37) FSN 3433-357-6422.

SEAT, HIGH PRESSURE: (18075:C-2) FSN 3433-378-4331.

SEAT, RUBBER, HIGH PRESSURE: (18075:C-2-A) FSN 3433-357-7206.

STEM, VALVE ASSEMBLY: (18075:48-C) FSN 3433-357-7430.

TIP, OXYGEN ACETYLENE, CUTTING: drill size 65/55 (18075:2C) FSN 3433-378-4341.

TIP, OXYGEN ACETYLENE, CUTTING: drill size 61/49 (18075:3C) FSN 3433-357-7557.

TIP, OXYGEN ACETYLENE, CUTTING: drill size 61/43 (18075:4C) FSN 3433-378-4344.

TIP, OXYGEN ACETYLENE, WELDING: drill size 73 (18075:2E) FSN 3433-357-7635.

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As complete sets, all three have the same FSN. That's why you would have any one of the three. But component FSN's differ from one set to another. FSN's for all parts of the Victor and National Cylinder Sets are listed in Change 3, but there's none given for the Dockson parts.

Here's a complete list of replaceable parts for the Dockson Corp. Model 4EC W/C-4 Torch Set, FSN 3433-294-6743:

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NUT, UNION: (18075:C-37)
FSN 3433-357-6422.

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FSN 3433-357-7635.

TIP, OXYGEN ACETYLENE, WELDING:
drill size 58 (18075:4E)
FSN 3433-357-7638.

TIP, OXYGEN ACETYLENE, WELDING:
drill size 52 (18075:6E)
FSN 3433-357-7642.

TIP, OXYGEN ACETYLENE, WELDING:
drill size 44 (18075:8E)
FSN 3433-357-7645.

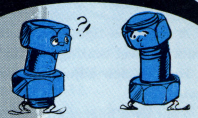
TIP, OXYGEN ACETYLENE, WELDING:
drill size 36 (18075:10E)
FSN 3433-357-7648.

UNION ATTACHMENT: (18075:C-36)
FSN 3433-357-8149.

WASHER, HIGH PRESSURE: (18075:C-7)
FSN 5310-357-8207.

WRENCH, TORCH AND REGULATOR: (00741:28)
FSN 5120-449-8179.

BOLTS ARE FLIPPED



New nuts and bolts—installed the right way—may be what your 5-ton M51 dump truck needs. Some vehicles got through with the dump body hinge bracket mounting bolts

installed with the nuts on the inner side of the bracket instead of the other way around. With side shifting of the dump body, this can cause interference with the sub frame. If this happens, get new bolts (FSN 5305-297-0703) and nuts (FSN 5310-050-3331) and put 'em in with the nuts on the outer side of the bracket.

on page 23 in Change 2, Dockson equipment is identified by the symbol 18075 following the part description.

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TIP, OXYGEN ACETYLENE, WELDING:
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FSN 3433-357-7642.

TIP, OXYGEN ACETYLENE, WELDING:
drill size 44 (18075:8E)
FSN 3433-357-7645.

TIP, OXYGEN ACETYLENE, WELDING:
drill size 36 (18075:10E)
FSN 3433-357-7648.

UNION ATTACHMENT: (18075:C-36)
FSN 3433-357-8149.

WASHER, HIGH PRESSURE: (18075:C-7)
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WRENCH, TORCH AND REGULATOR: (00741:28)
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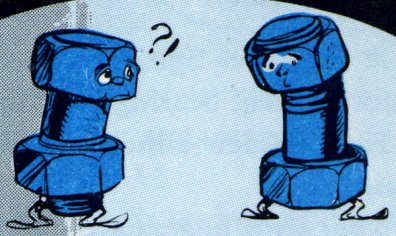
BOLTS ARE FLIPPED



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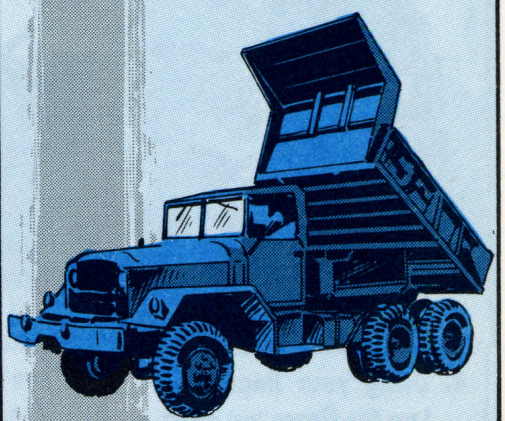

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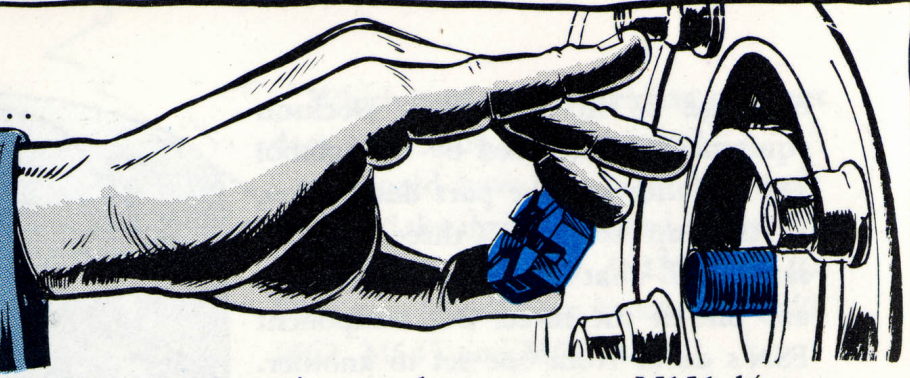
M151 WHEEL BEARINGS . . .

FINGER TIGHT'S ABOUT RIGHT



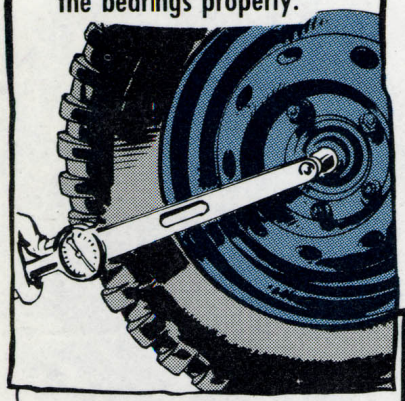
A little too tight or a little too loose is enough to put your M151 ¼-ton truck's wheel bearings on the road to ruin.

Here's a new adjustment procedure that'll give longer life to bearings and seals.

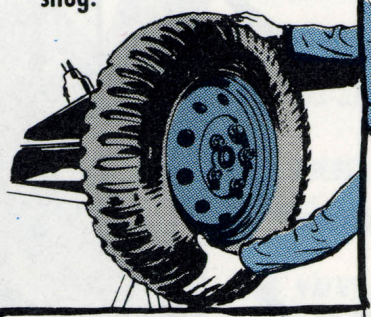
Your own fingers are important in getting this adjustment just right.

Before you start adjusting, mount the wheel on the hub, then:

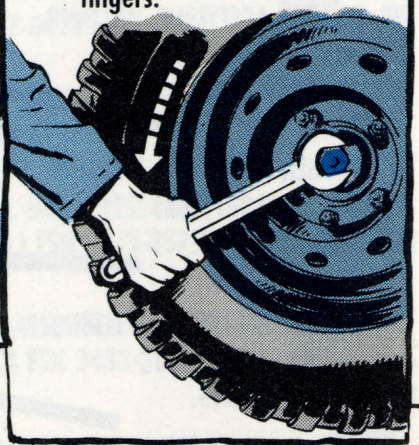
1. Tighten the flange nut to 30 ft-lbs torque, joggling the wheel as you go to seat the bearings properly.



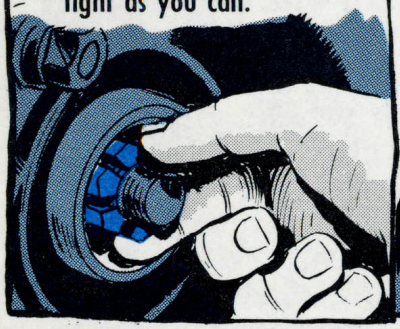
2. Rotate the wheel a few times to make sure the bearing assemblies and seals are snug.



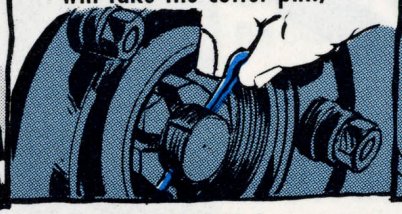
3. Back off the flange nut until it can be turned with the fingers.



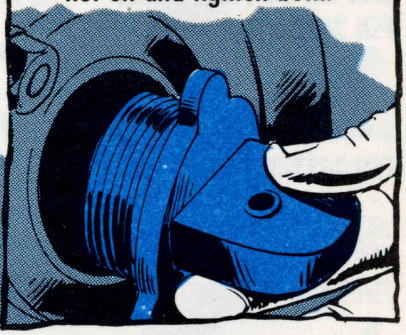
4. Using your fingers only, turn the flange nut down as tight as you can.



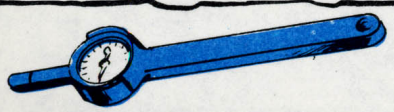
5. Slip in the cotter pin and secure. (The drive flange has two holes for the cotter pin. If a slot in the flange nut doesn't line up with one of these holes, back off the nut just until the nearest hole will take the cotter pin.)



6. Put the lifting eye and locknut on and tighten both.

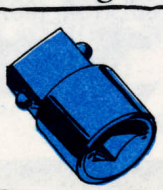


For adjusting the flange nut—in addition to your fingers—you'll need:



— Torque wrench, ½-in square-drive.

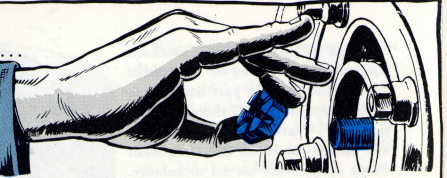
— Socket wrench adapter, ¾-inch-square male end and ½-in-square female end.



— 1¼-in socket with ¾-in square-drive.

M151 WHEEL BEARINGS . . .

FINGER TIGHT'S ABOUT RIGHT



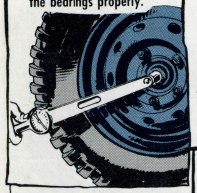
A little too tight or a little too loose is enough to put your M151 ¼-ton truck's wheel bearings on the road to ruin.

Here's a new adjustment procedure that'll give longer life to bearings and seals.

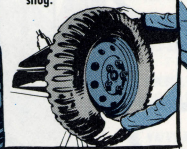
Your own fingers are important in getting this adjustment just right.

Before you start adjusting, mount the wheel on the hub, then:

1. Tighten the flange nut to 30 ft-lbs torque, joggling the wheel as you go to seat the bearings properly.



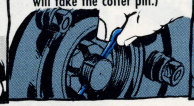
2. Rotate the wheel a few times to make sure the bearing assemblies and seals are snug.



3. Back off the flange nut until it can be turned with the fingers.

4. Using your fingers only, turn the flange nut down as tight as you can.

5. Slip in the cotter pin and secure. (The drive flange has two holes for the cotter pin. If a slot in the flange nut doesn't line up with one of these holes, back off the nut just until the nearest hole will take the cotter pin.)



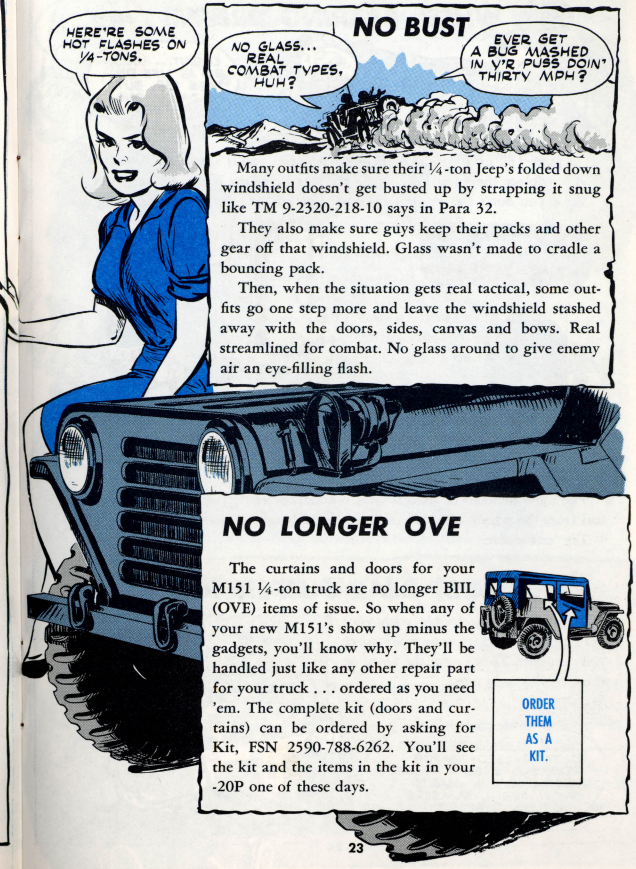
6. Put the lifting eye and locknut on and tighten both.

For adjusting the flange nut—in addition to your fingers—you'll need:

— Torque wrench, ½-in square-drive.

— Socket wrench adapter, ¾-inch-square male end and ½-in-square female end.

— 1¼-in socket with ¾-in square-drive.

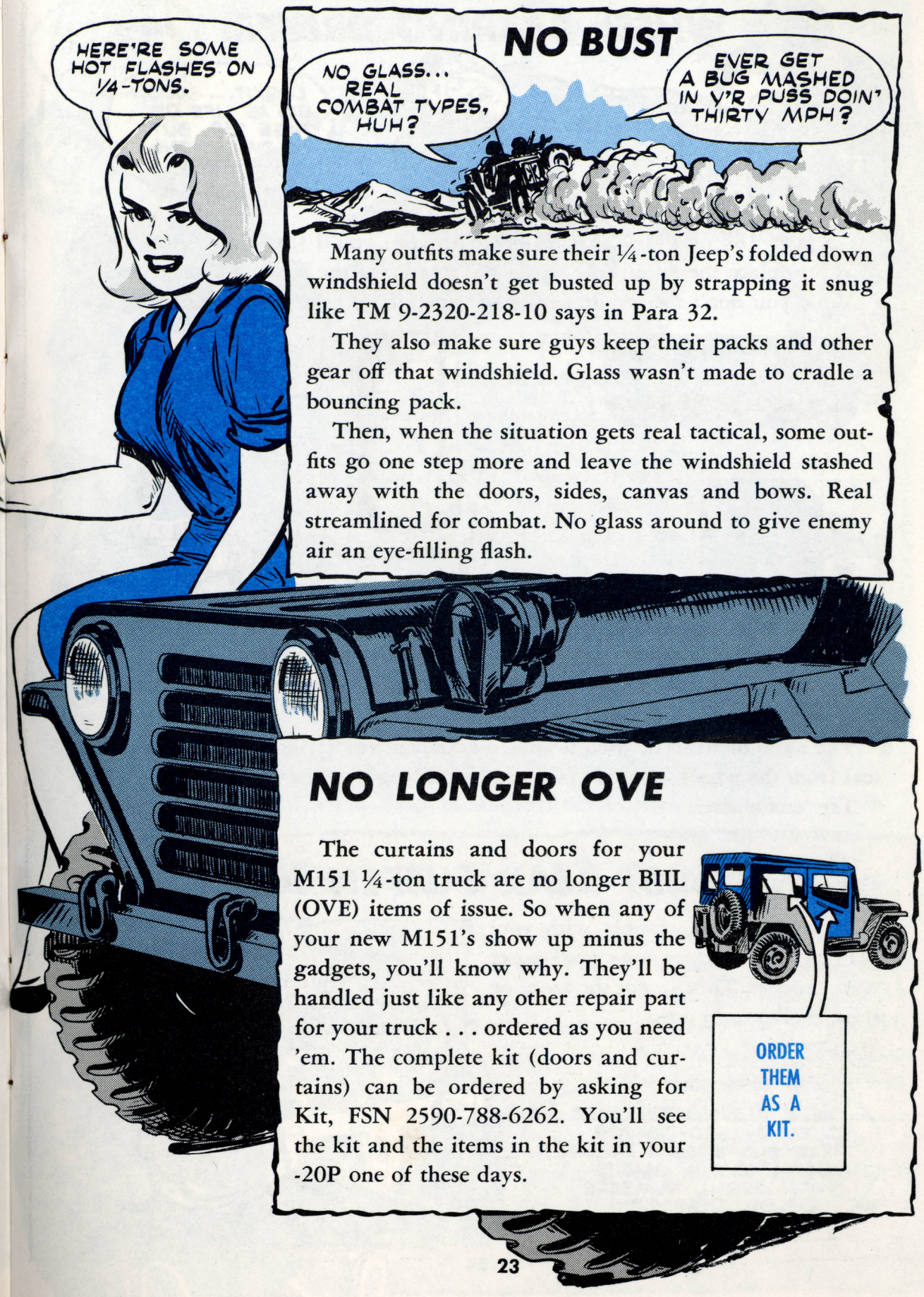


Many outfits make sure their ¼-ton Jeep's folded down windshield doesn't get busted up by strapping it snug like TM 9-2320-218-10 says in Para 32.

They also make sure guys keep their packs and other gear off that windshield. Glass wasn't made to cradle a bouncing pack.

Then, when the situation gets real tactical, some outfits go one step more and leave the windshield stashed away with the doors, sides, canvas and bows. Real streamlined for combat. No glass around to give enemy air an eye-filling flash.

The curtains and doors for your M151 ¼-ton truck are no longer BIIL (OVE) items of issue. So when any of your new M151's show up minus the gadgets, you'll know why. They'll be handled just like any other repair part for your truck . . . ordered as you need 'em. The complete kit (doors and curtains) can be ordered by asking for Kit, FSN 2590-788-6262. You'll see the kit and the items in the kit in your -20P one of these days.



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NO LONGER OVE

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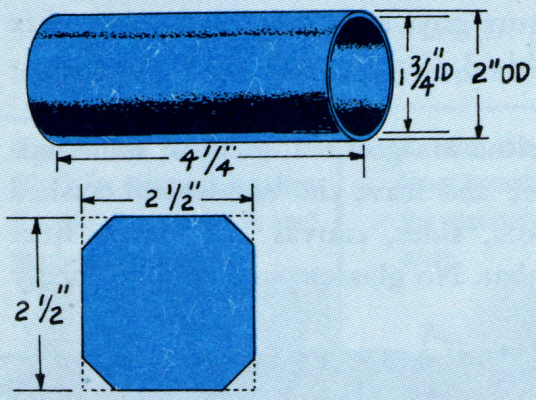
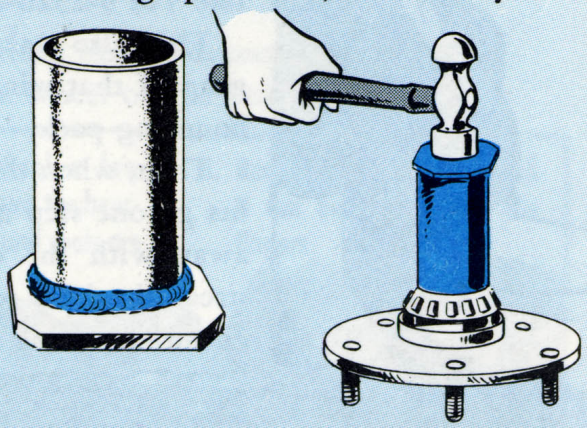
WHEEL BEARING DRIVER

On page 189 of TM 9-2320-218-20 (Apr 63) you'll spy a small tool being used to replace the outer bearing on the spindle of the M151 ¼-ton truck.

What you don't see are dimensions for making up the tool, so here they are:





You'll need a small pipe (alloy aluminum preferred) that's 4¼-in long x 1¾-in ID x 2-in OD. For a base to hammer on, use a heavier metal piece of approximately 2½ inches square. Round off the corners if they're sharp.

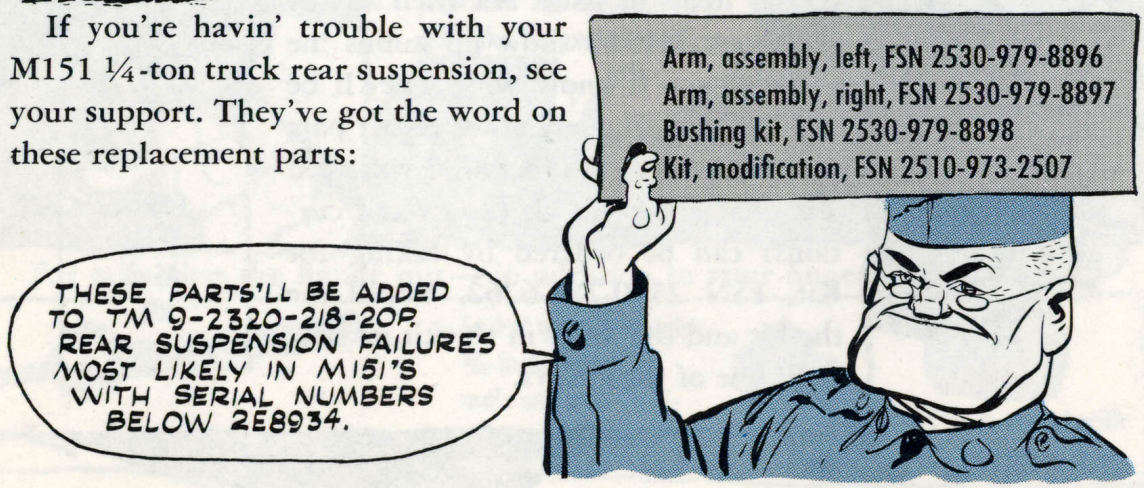
Center-weld the pipe to the base plate.

The same tool can be used to loosen and remove the inner bearing cup and seal from the wheel support . . . that's step 2, page 189 in the -20 TM.

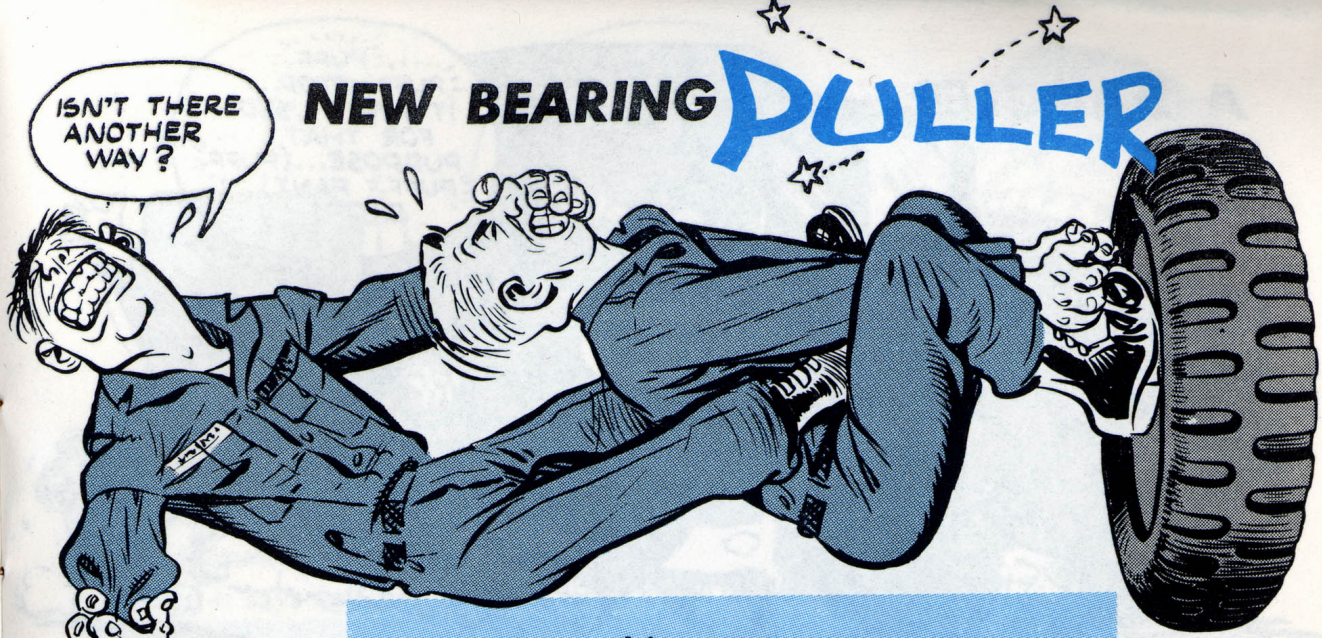
Try 'er for size.

M151 REAR SUSPENSION

If you're havin' trouble with your M151 ¼-ton truck rear suspension, see your support. They've got the word on these replacement parts:



NEW BEARING PULLER

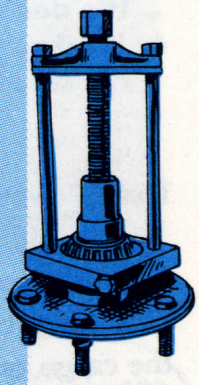


An all-around improvement.

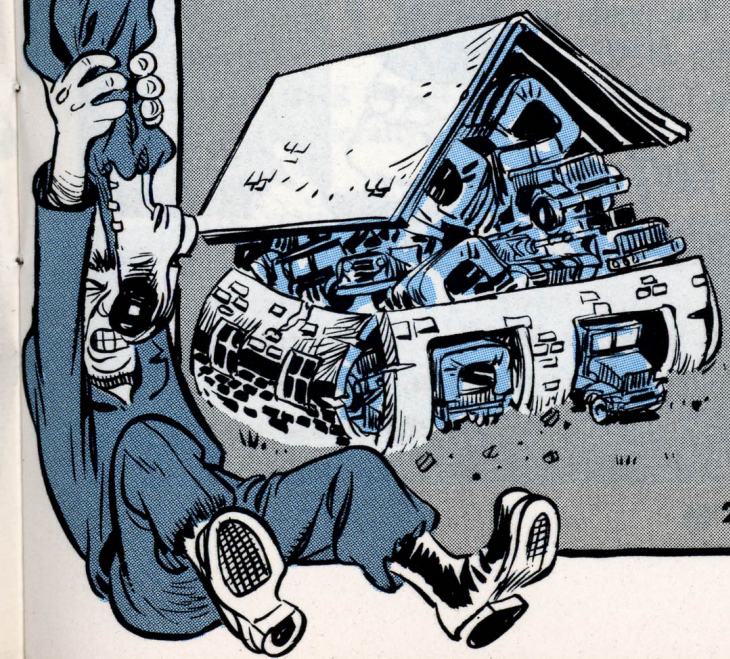
That's the new wheel-bearing puller in your M151 ¼-ton truck's B Tool Set. Because it grabs all around, it's just about impossible to damage the outer bearing when pulling it off the spindle hub.

Except for turning the two bolts that bring the jaws together before you start pulling, you work this puller the same as the old one, like it shows in TM 9-2320-218-20 (Apr 63).

FSN 5120-567-2492 is what you ask for to get this new tool as a replacement for the old style puller, FSN 5120-027-7161.

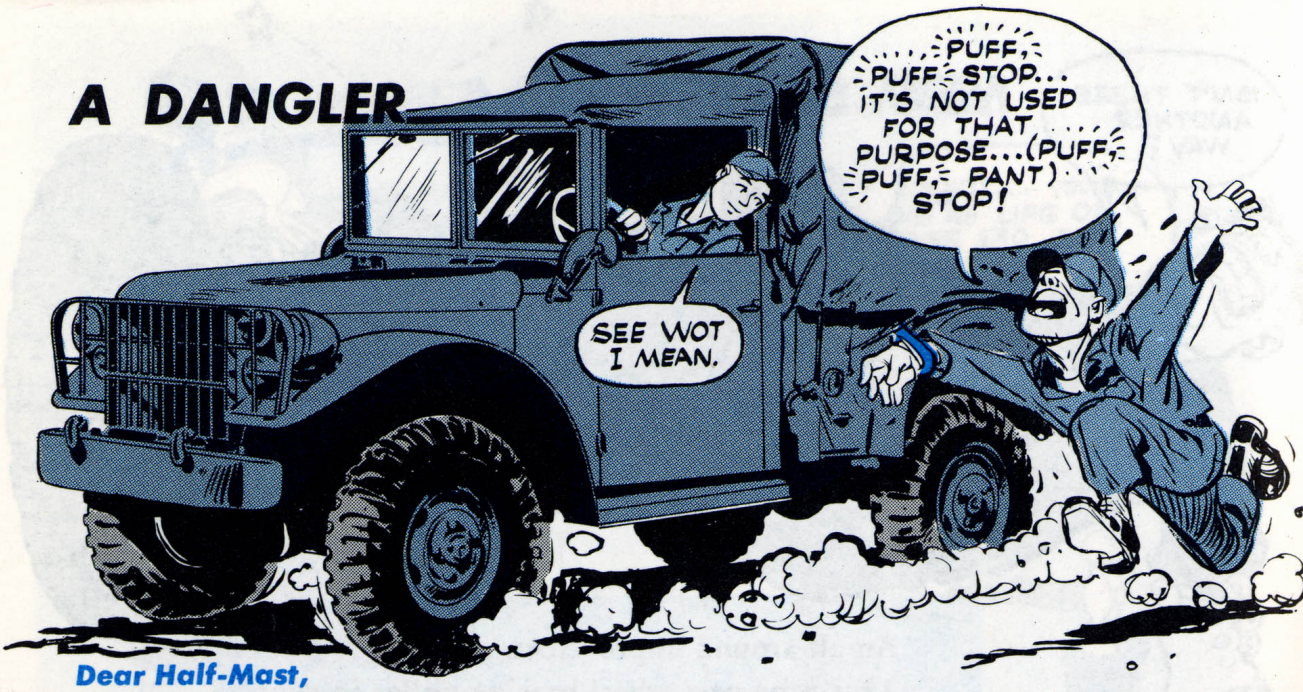


MINDING THE STORAGE?



Got so many vehicles you can't mind the store? Maybe your major commander will authorize you to put some of them in administrative storage. TB Ord 1045 (Sep 62) gives all the info an organization needs on this. It tells you why the vehicles can be put in storage and how you inspect and care for them while they're there. This TB goes for both tactical and administrative vehicles.

A DANGLER



Dear Half-Mast,

We have a batch of ¾-ton G741-series trucks and every one has a strap dangling from each side of the cargo body about two feet to the rear of the cab.

We don't know how to use 'em. An old timer said they're to tie prisoners to by their wrist so they can run alongside when the cargo body is full.

I'm sure he's pulling my leg, but what are they for?

Pvt O. T. L.

Dear Private O. T. L.,

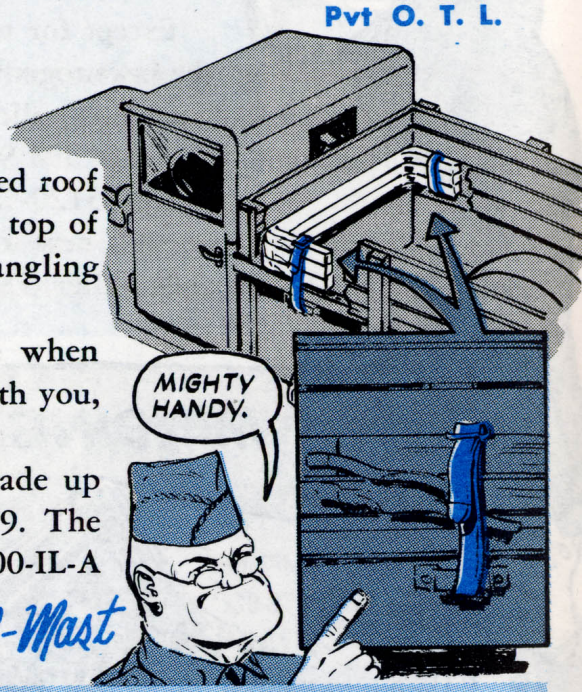
That old timer was just spoofing you.

The straps are for securing your dismantled roof bow assembly. The bows lie full length on top of the cargo rail and are tied down with the dangling straps.

Keep the straps in good shape because when you've got to take your dismantled bows with you, the straps come in mighty handy.

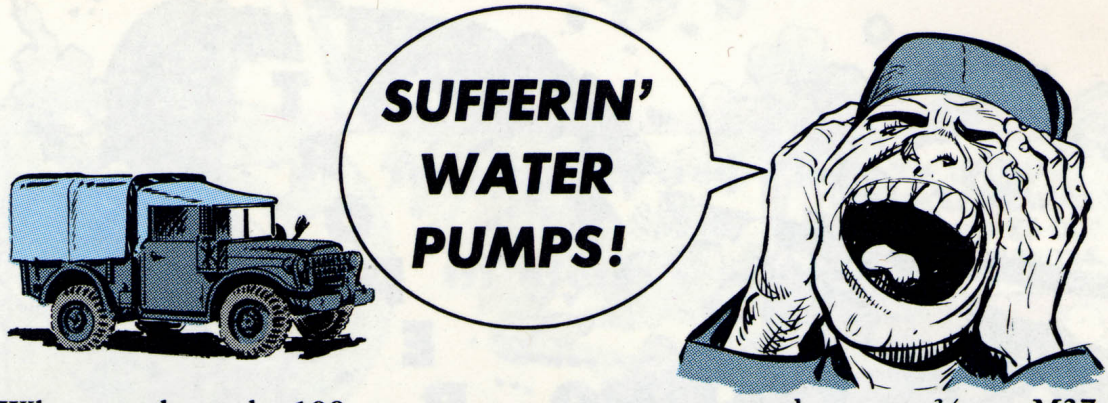
When you need new straps, have 'em made up from Bulk Web Strap, FSN 8305-263-2479. The bulk strap is in Federal Supply Catalog C8300-IL-A (Feb 64), page 83, Index 41730.

Half-Mast



100 AMPS FOR ¾-TONS

If a lot of commo equipment on your M37 or M37B1 3/4-ton truck really loads down the electrical system, then you need more than those little 45-amp batteries. TB 9-2320-212-20/2 (Oct 62) authorizes 100-amp batteries and gives with fabricated carriers to handle those bigger batteries.

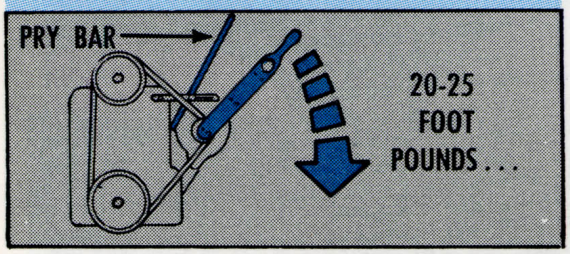


When you have the 100-amp generator system mounted on your ¾-ton M37-series truck, the fan belt tension adjustment should be no guessing game.

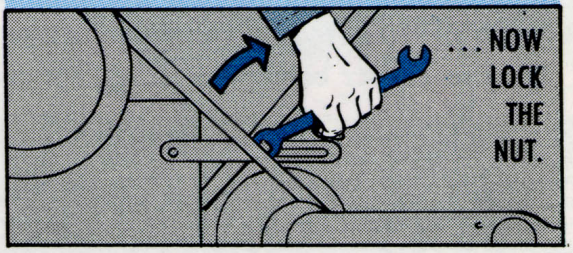
Too many ruined water pumps tell of bad guesses. Too tight is usually the trouble maker.

Like it says in Change 3 (Oct 62) to MWO ORD G741-W12:

1. Put a torque wrench to the generator pulley nut while putting tension on the fan belt with a pry bar . . .



2. When it takes 20-25 foot-pounds to make the pulley slip on the belt — then lock the adjustment arm nut.



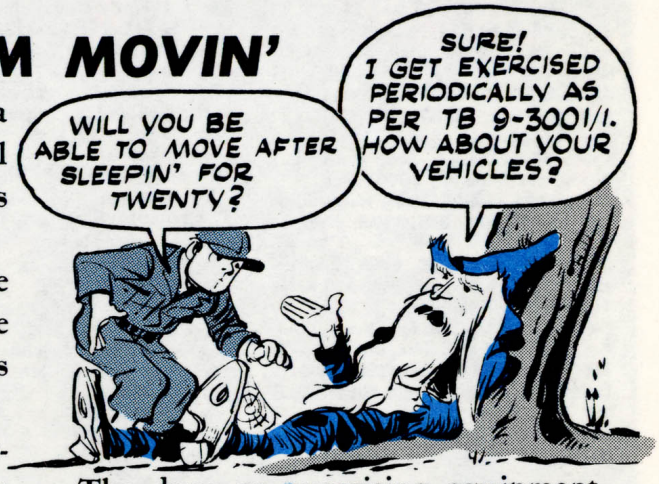
For a pry bar to push the generator against the fan belts, a tire rim tool is about as handy as anything.

KEEP 'EM MOVIN'

Rip Van Winkle hardly twitched a muscle for 20 years but could still get around when he woke up. **That's fiction.**

Let your tracked or wheeled vehicle sit still for long and it's apt to freeze up and just generally go to pot. **That's fact.**

Maybe your equipment's out of action just because it's missing some part or is waiting for minor repairs. If it's deadlined for 90 days or more — either up on blocks or on its wheels or tracks — it's supposed to get exercise to keep parts from rusting or seizing.



The dope on exercising equipment in storage for 90 days or more is in TB 9-300-1/1 with Change 2 (for combat vehicles) and TB 9-300-2/1 with Change 2 (for tactical wheeled vehicles).

If a candy lass has hustle in the bustle, it's like a 30-day pass. But if the turret bustle on your M60A1 tank hustles (like straight up into the wild blue) a bustle is the end — your end — man.

So dig those three live rounds out of the turret bustle before they dig you — (six feet under).

It's official now . . . no live rounds of ammo to be carried in the turret bustle tray of the M60A1 tank until a kit comes through to make the latches work better. The kit may be ready around October. The official word is out as TWX ATAC Msg TT19570 dated 22 Oct 63.

For the 10 per cent who didn't get the word, THIS IS IT.

A selected list of recent publications of interest to Organizational Maintenance Personnel. This is a list compiled from recent Adjutant General's Distribution Center Bulletins. For complete details see DA Pam 310-4 with latest changes.

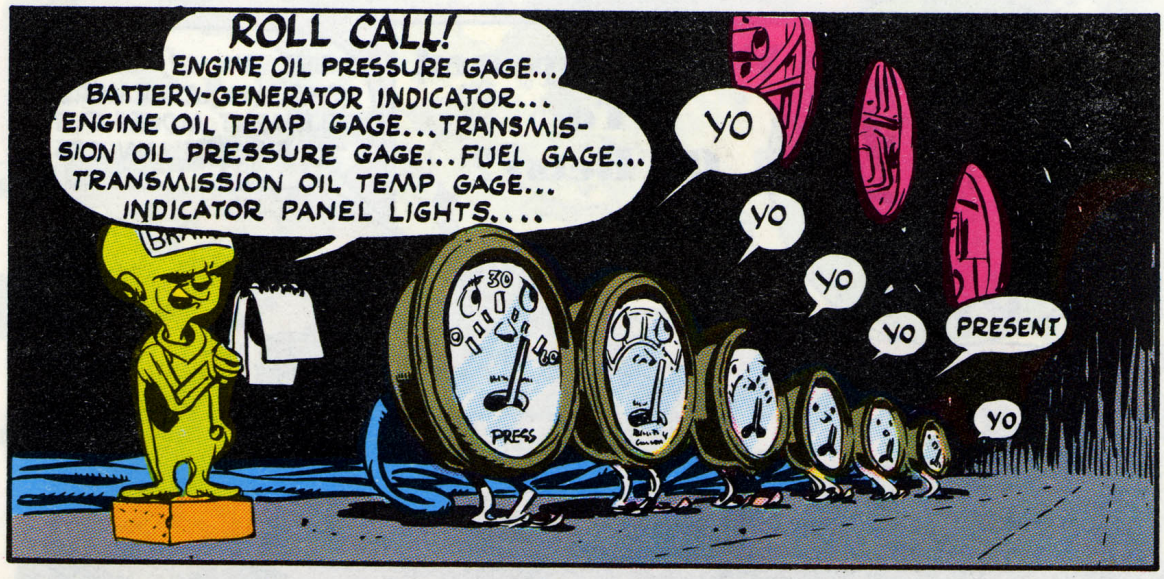
TECHNICAL MANUALS

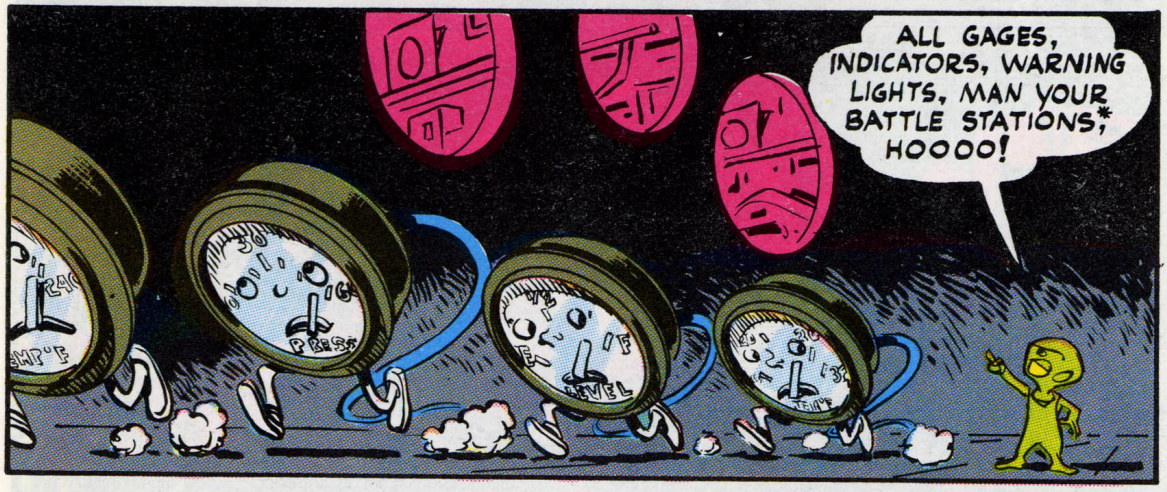
TM 1-1U-1A-1037, C2 Mar, U-1.
TM 3-4230-203-12, Mar, Decontaminating Apparatus, Truck Mtd, 400-Gal M9.
TM 5-3740-201-25P, Feb, Sprayer Insect, Gas Eng; 30 GPH, 25 PSI Curtis CAD 11080-1-A.
TM 5-3895-254-15, Jan, Distributor, Bituminous Material, 800-Gallon.
TM 5-3895-264-25P, Jan, Heater, Hot Oil: 2,100,000 BTU; Mtd Hopkins 200S.
TM 5-4310-207-20P, Feb, Compressor, Rot: Truck Mtd Gas Eng 210 CFM; 100 PSI Harris J-210-FED.
TM 5-4320-210-20P, Feb, Pump, Cent, Pet GED, Skid Mtd Con Diesel 4093.
TM 5-4930-206-15, Feb, Lub and Serv Unit, 16 CFM Comp GED, Gray Model 251-437.
TM 5-6115-302-20P, Feb, Gen Set, Diesel Eng: 45KW, Harnischfeger 400A.
TM 9-1005-223-12, Feb, M14 & M14E2 Rifle.
TM 9-1015-234-ESC, Jan, Howitzer, Light, Towed: 105-MM, M102.
TM 9-1430-250-12P/2/1, Feb, Nike-Herc, Nike-Herm (Imp).
TM 9-1430-512-12P/1, Feb, Hawk.
TM 9-1440-250-12P/3/1, Mar, Nike-Herc, Nike-Herc (Imp).
TM 9-1440-301-12, Feb, Sgt.
TM 9-1440-301-12P/2, Feb, Sgt.
TM 9-1450-376-12P/1, Mar, Pershing.
TM 9-1450-377-12P/1, Mar, Pershing.
TM 9-2350-215-20P, Jan, Tank M60.
TM 9-4935-304-12P/2, Feb, Sgt.
TM 9-4935-305-12P/2, Feb, Sgt.
TM 9-4935-381-12P/1, Mar, Pershing.
TM 9-4940-250-15P/1/1, Feb, Nike-Ajax, Nike-Herc.
TM 9-4940-250-15P/2/1, Feb, Nike-Ajax, Nike-Herc, Nike-Herc (Imp).
TM 9-4940-251-15P/2/1, Feb, Nike-Ajax, Nike-Herc, Nike-Herc (Imp).
TM 9-6920-375-12P/1, Mar, Pershing.
TM 9-6920-461-12P, Feb, G.M.L. M22.
TM 9-6920-461-12P, Feb, Entac.
TM 9-7022, C10, Mar.
TM 9-8140-375-12P/2, Mar, Pershing.
TM 10-270, Jan, General Repair QM Items of Equip.
TM 10-500-13, Mar, Rigging the M101 ¾-Ton Cargo Trailer.
TM 10-500-20, Mar, Airdrop of Equip Rigging 2½-Ton Trks.
TM 10-3930-215-20P, Mar, Trk, Lift, Fork, Gas, 6000 Lbs Cap Minneapolis-Moline MY60RS, MY60MC NRS, MY60MC RS, Army Mdl MHE 71, 171A.
TM 10-3930-256-10, Feb, Solid Rubber Tires, 6000 lb Cap, MHE-198, Baker FTD-060-EE.
TM 10-3930-257-10, Feb, Solid Rubber Tires, 4000 lb Cap, MHE-196, Baker FTD-040-EE.
TM 10-4230-202-15, Feb, Delousing Outfit: Johnson Service Co. 252 QM.
TM 10-8415-204-13, Feb, Protective Clothing.
TM 11-5820-524-20P, Feb, Radio Terminal Set AN/TRC-90A.
TM 11-6130-217-15, Feb, Btry Charger PP-178/U.
TM 55-1100-226-12-6, C1, Feb, CV-2.
TM 55-1400-375-10-18, Feb, Pershing.
TM 55-1400-300-10-5, Feb, Pershing.
TM 55-1510-204-10, Feb. OV-1.
TM 55-1520-204-20PMD, Feb, OH-13.
TM 55-1520-204-20PMI, Feb, OH-13.
TM 55-1520-204-20PMP, Feb, OH-13.
TM 55-1520-206-20, Feb, OH-23.
TM 55-1520-209-10, C4, Apr, CH-47.
TM 55-1520-210-20, C1, Feb, UH-1D.
TM 55-1520-210-20P, C1, Mar, UH-1D.
TM 55-1520-211-10, C3, Mar, UH-1.
TM 55-1520-211-20, C2, Feb, UH-1A & B.
TM 55-1520-211-20P, Jan, UH-1.
TM 55-1905-203-12P, C1, Feb, Marine.

LUBRICATION ORDERS

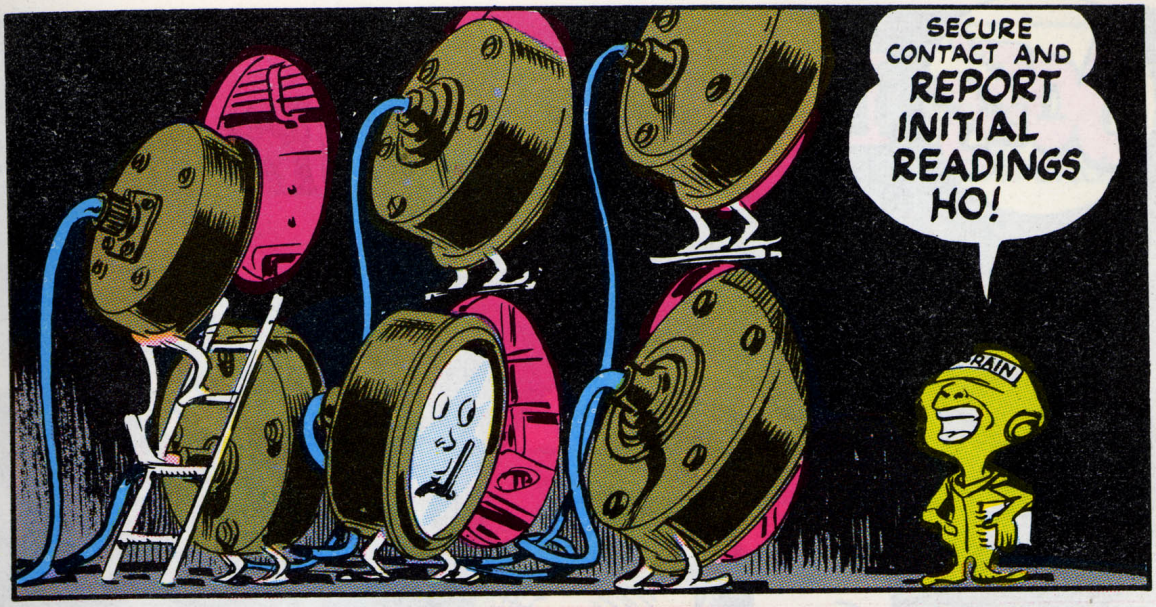
LO 5-3805-218-15, Feb, Scraper, Towed: 18 Cu Yd Le Tourneau Westinghouse CT-4.
LO 5-4210-205-12, Oct, Truck, Fire Fighting: Powered Pumper; Foam and Water 500 G.P.M.
LO 5-4310-245-15, Feb, Compressor, Recip: 8 CFM; 175 PSI Kellog-American G-321-PB.
LO 5-4320-217-15, Feb, Pump, Centr: Petr; GED, 500 to 1400 GPM; Brielle Marine Industrial Equip Co PP113.
LO 5-4930-206-15, Feb, Lub and Serv Unit: 16 CFM Comp; GED, Gray 251-437.
LO 5-6115-312-15, Jan, Gen Set, GED: 5 KW; Hol-Gar CE-56-AC.
LO 9-1025-200-10, Feb, How, Towed: 155-MM, M114 and M114A1 and How, Med, Towed: Aux Propelled, 155-MM, M123A1.
LO 9-1030-203-10, Feb, How Heavy, Towed, 8-Inch, M115.

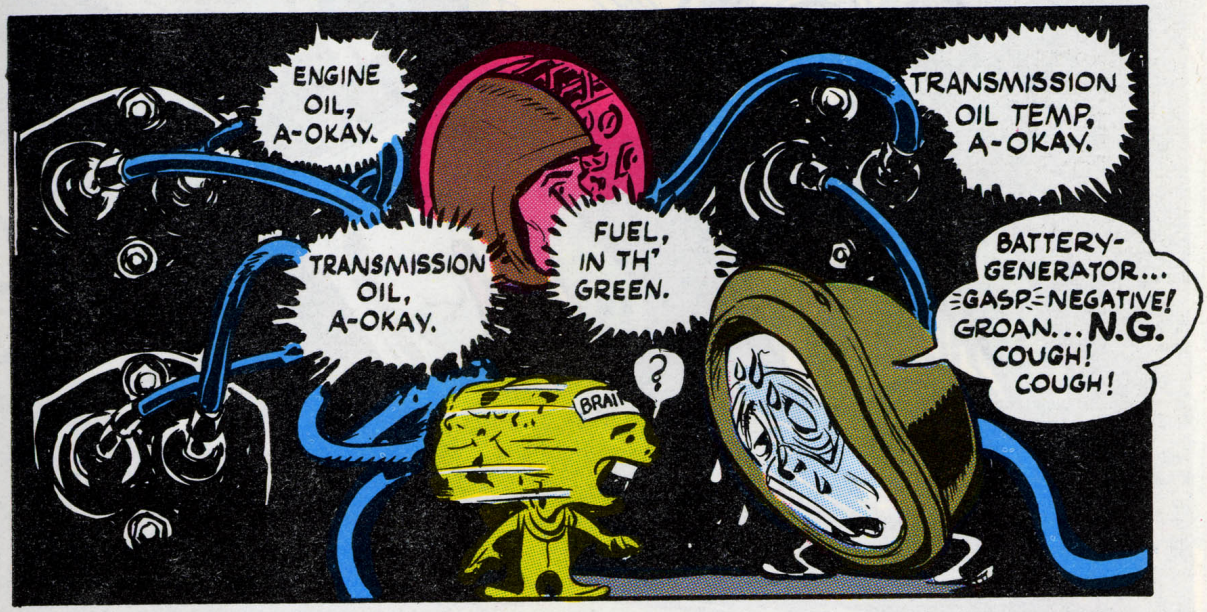
JOE'S DOPE
Wot Happened To Ol' Betsy?
FIRE 'EM UP, DAD!... THE WHOLE ARMORED ELEMENT MOVES OUT IN FIFTEEN MINUTES.
BRAIN
HEY YOU GUYS... WE GOT A MISSION. FALL IN!
TEMP °F
PRESS

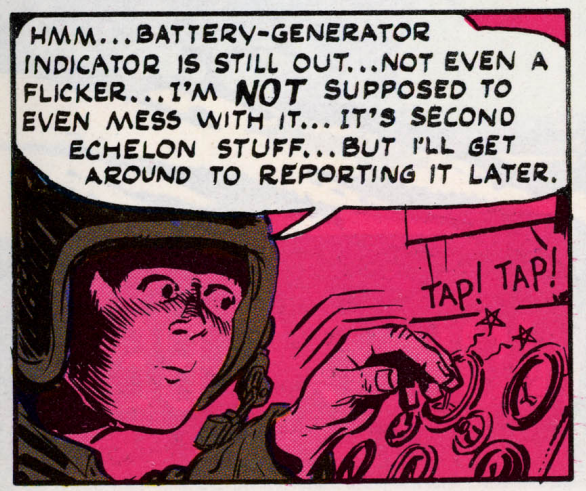


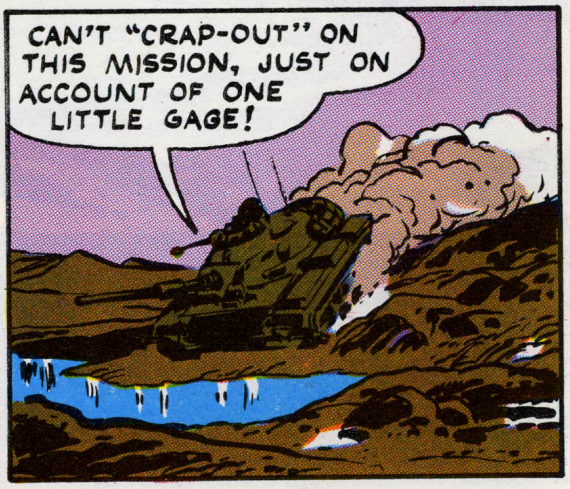


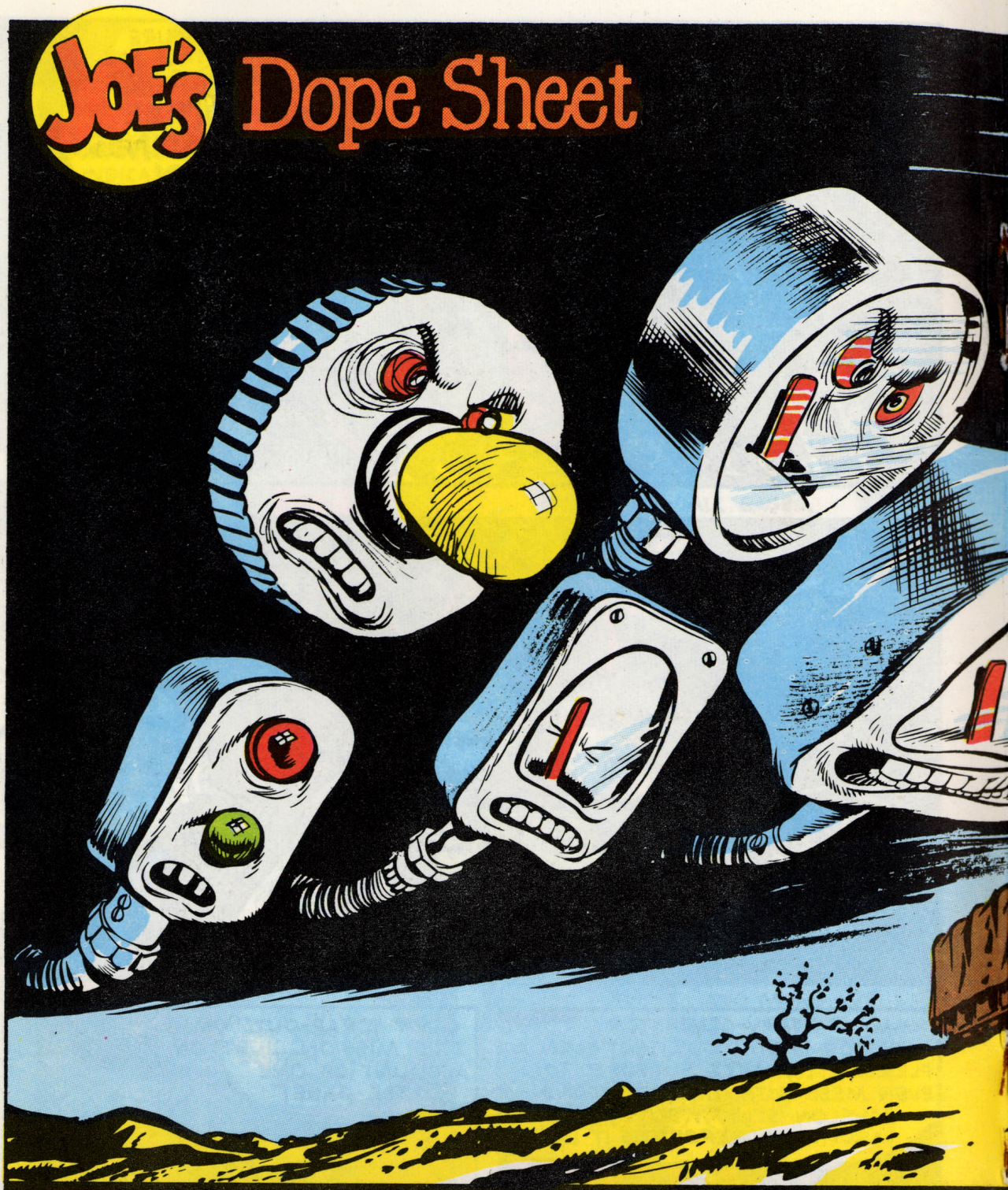
*Navy lingo for: "Outta your hooch and into y'r holes."


SECURE CONTACT AND REPORT INITIAL READINGS HO!
BRAIN


ENGINE OIL, A-OKAY.
TRANSMISSION OIL, A-OKAY.
FUEL, IN TH' GREEN.
TRANSMISSION OIL TEMP, A-OKAY.
BATTERY-GENERATOR... =GASP= NEGATIVE! GROAN... N.G. COUGH! COUGH!
BRAIN
?

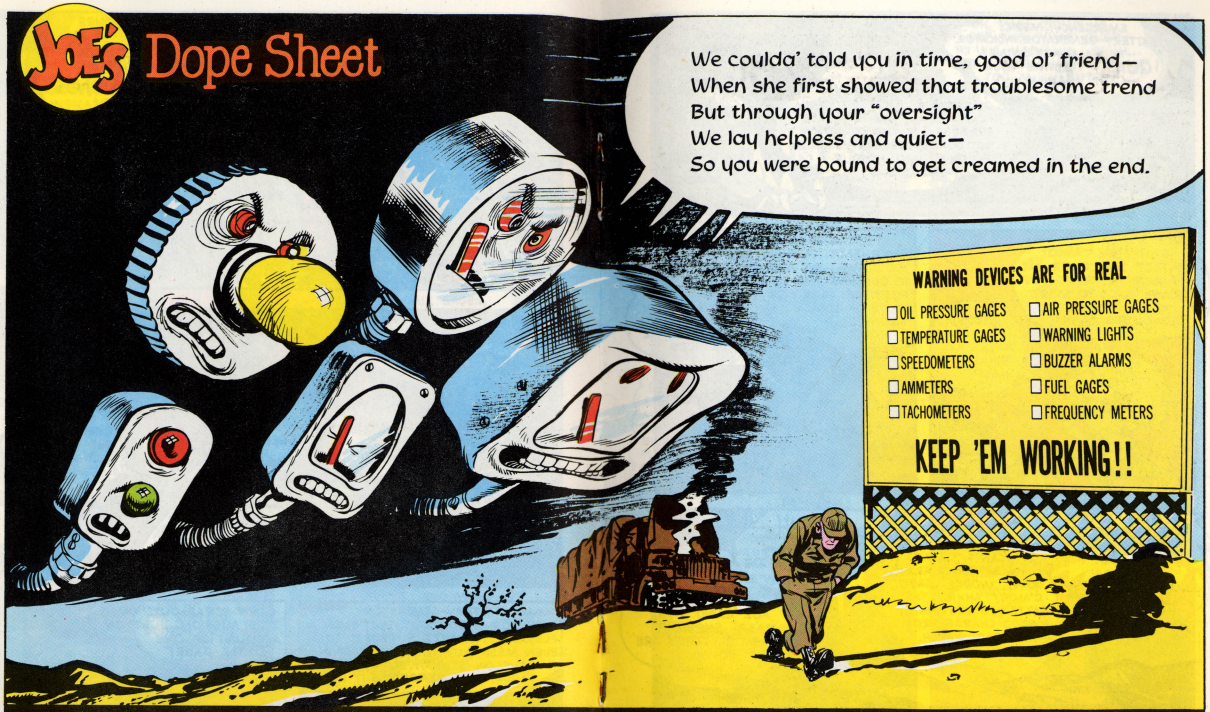

HMM...BATTERY-GENERATOR INDICATOR IS STILL OUT...NOT EVEN A FLICKER...I'M NOT SUPPOSED TO EVEN MESS WITH IT... IT'S SECOND ECHELON STUFF...BUT I'LL GET AROUND TO REPORTING IT LATER.
TAP! TAP!


CAN'T "CRAP-OUT" ON THIS MISSION, JUST ON ACCOUNT OF ONE LITTLE GAGE!



WE HAVE THE WORLD'S BEST EQ

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BU



WE HAVE THE WORLD'S BEST EQUIPMENT ... *Take care of it*

IF YOU WANT TO DISPLAY THIS CENTERPIECE ON YOUR BULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

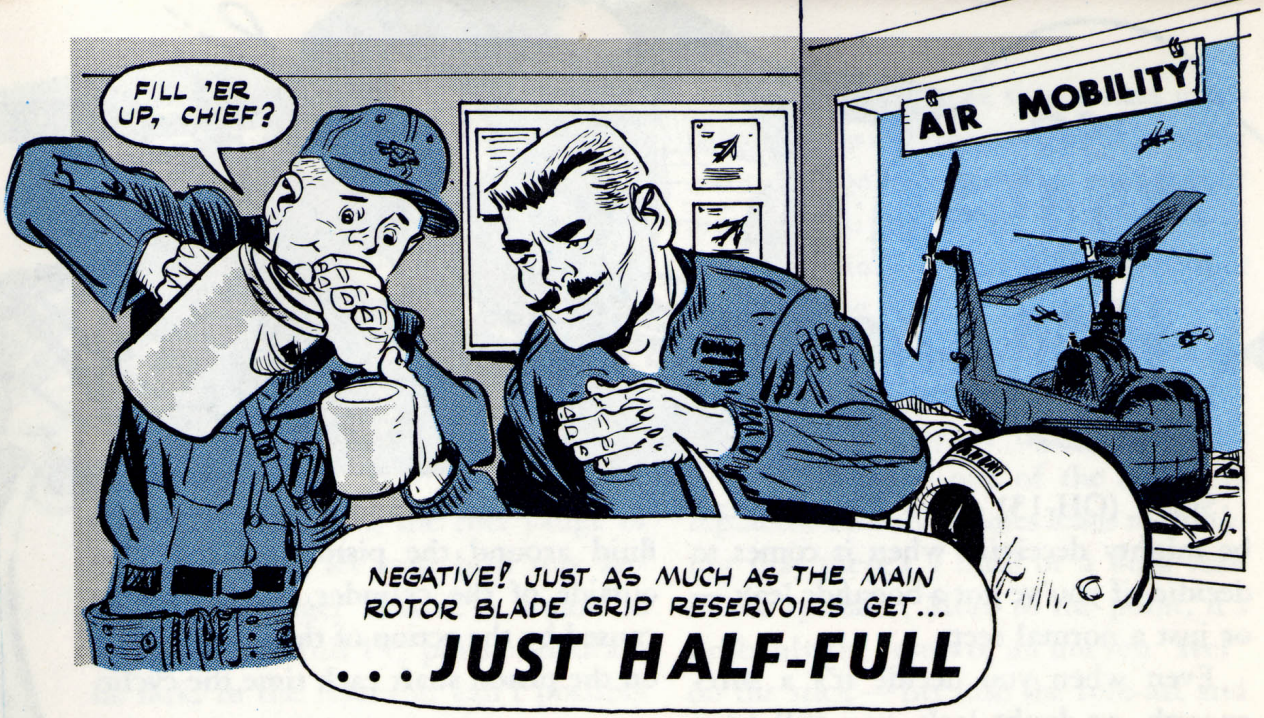
QUIPMENT . . . *Take care of it*

ULLETIN BOARD, OPEN STAPLES, LIFT IT OUT AND PIN IT UP.

EMERGENCY! MEDIC! BATTERY-GENERATOR INDICATOR IS MALFUNCTIONING!! QUICK! TELL ME YOUR LAST READING.
BRAIN
GASP BATTERIES LOW! GENERATORS NOT PUTTING OUT. OHHH. MY INTRICATE INNARDS... IF THIS CONDITION IS NOT CORRECTED GASP SERIOUS TROUBLE... WILL... OCCUR... GROANNNN
COUGH COUGH
OHHH! WE CANNOT CONTACT THE DRIVER... AT THIS RATE HE WON'T HAVE ENOUGH JUICE TO START AN ARGUMENT, LET ALONE THIS TANK!
BRAIN
SECOND ECHELON! WHERE ARE YOUUUU? HALP!
STEER FOR THAT OVERHANG... 'N' SHUT 'ER DOWN... WE ARE TO OBSERVE THE POSSIBLE AGGESSOR ROUTE OF ATTACK FROM THAT POINT.
YEAH! THEN RADIO IN GRID COORDINATES TO "DIVARTY" 'N' HIGH TAIL IT OUTTA HERE BEFORE THE H.E. ARRIVES.
AM INFORMING PLATOON LEADER WE ARE IN POSITION. THEN WE WAIT 'N' WATCH... GOT IT?
OH-OH... CAN'T TELL WOT MY BATTERIES ARE DOIN' WORK!... GAGE... C'MON! AHHH... THE BATTERIES MUST HAVE A GOOD CHARGE FROM THE ROAD MARCH. SO, NO SWEAT!! (I HOPE.)
BAM
POW
LOOK OUT! HE'S CONVULSING... WOT'S HAPPENING, BATTERY-GENERATOR INDICATOR?
AWK GASP HE IS DRAWING... MORE... CURRENT FOR RADIO... THE GASP ENGINE IS OFF... BATTERIES ARE WAY DOWN... AGHHHHH.
RATTLE
RATTLE

=GASP= THAT LAST TRANSMISSION DID IT... IF HE DOESN'T START THE ENGINE ON THE FIRST GO AROUND =GASP= THAT'S ALL SHE WROTE... WE'VE BOUGHT IT.
OH, WHY DIDN'T HE GET THIS "CAN" OVER TO HIS MECHANIC...OHHH... HE NEVER "HAS THE TIME." ...TOO MUCH BOTHER.... OHHHH
KEEP YOUR EYES PEELED. THEY SHOULD BE COMING ANY TIME NOW.
SHOULDA REPORTED THIS ON MY 2404 LAST WEEK... THE WRENCH JOCKEY WOULD'VE HAD THIS BUM INDICATOR REPLACED BY NOW... FOOEY... ANYWAY, THEM BATTERIES ARE OK (I HOPE).
HOLD IT! IT'S THEM! WE ARE RIGHT IN THE LINE OF MARCH! CALL IN A FIRE MISSION.
DAD! THAT INCOMING BAGGAGE WILL CREAM THIS WHOLE AREA IN FOUR MINUTES... BY THE WAY, THE "RT" WAS KINDA WEAK. HOW'S OUR BATTERIES?
=ULP= CAN'T TELL FOR SURE.
WOT! WHY CAN'T YOU TELL?
ER... THE BATTERY-GENERATOR INDICATOR'S BEEN ACTIN' UP. NO READING!

WHAAAAT @★!!
GET THIS THING STARTED AND GET US OUTTA HERE! WE'RE DEAD IN TWO MINUTES IF WE STAY.
I'LL TRY... CROSS Y'R FINGERS.
GRIND
GRIND
CLICK
THAT'S ALL SHE'S GOT. WE'VE HAD IT!
MAKE TRACKS OUTTA HERE! GO MAN GO LIKE RUN!
CHUG
CHUG
CHUG
CHUG
HERE IT COMES!
WHAM
WHAM
CRUNCH
WHEW! WAS THAT CLOSE! WE GOT AWAY WITH ONLY A COUPLE OF CUTS 'N' BRUISES... ALL THIS ON ACCOUNT OF A LIL' GAGE. BOY! AM I GONNA MEND MY WAYS.
YEAH...ME TOO... HEY DRIVER! EASY ON THEM BUMPS... SLOW DOWN.
OK, OK! SPEEDOMETER'S BEEN BUSTED FOR A WEEK. SORRY! I'LL GET SECOND ECHELON TO LOOK AT IT NEXT WEEK MAYBE.
AID STATION



It never fails! Ask anybody for "just a half cup" of java and you'll get two-thirds—three-quarters—even a full cup . . . no sweat.

But this liberal bit definitely doesn't go when you're feeding the main rotor blade grip reservoirs of your Huey (UH-1D) on a Daily.

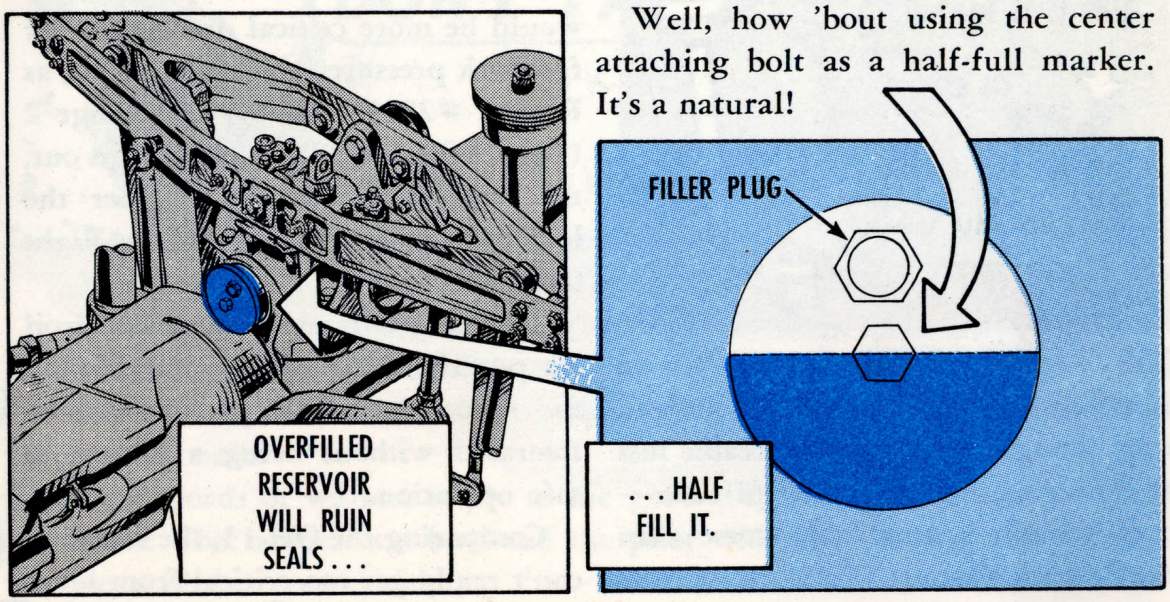
Para 2-51, Chap 2, Sect II of TM 55-1520-210-20 (1 Oct 64) says to fill the reservoir **half-full** with lubricating oil, MIL-L-7808.

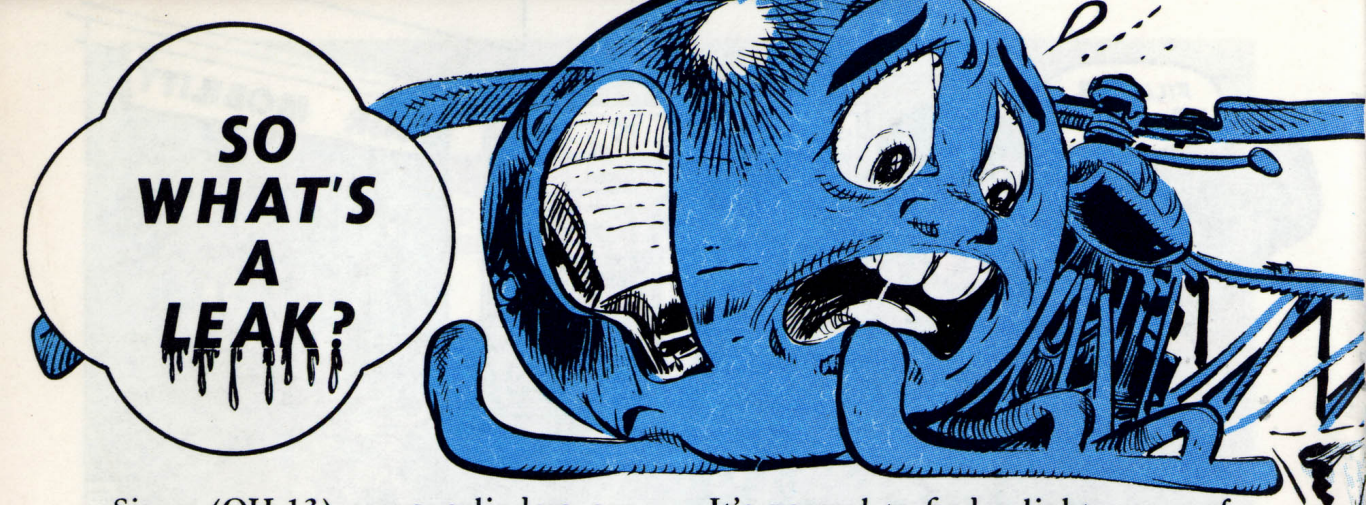
If you fill 'er to the level of the filler plug hole, there won't be enough room for expansion when the oil heats up. Then the relief valve will become plugged because it vents air, not oil.

'Course when the oil starts pushing, something has to give. In this case it's the reservoir packing seals. Leaking seals mean grounding the bird to put in new ones.

So how full is "half-full" on the transparent reservoir?

Well, how 'bout using the center attaching bolt as a half-full marker. It's a natural!



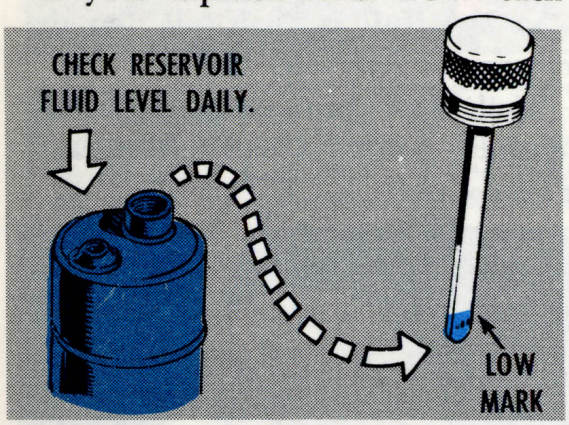


Sioux (OH-13) servo cylinders can be mighty deceivin' when it comes to decidin' if you've got a bonafide leak — or just a normal seep.

Even when you decide it's a sure-enough, no-doubt leak, you still have the annoying job of figuring out if that leak requires grounding your bird . . . ASAP or after a wait-and-see period of time.

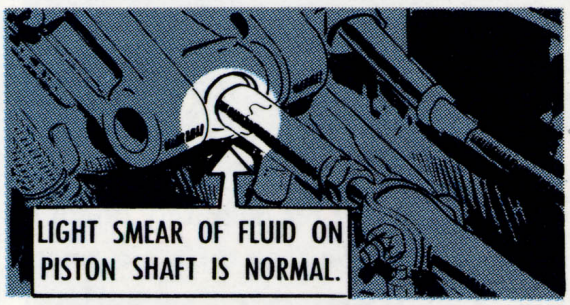
When it comes to normal operations, your best leak indicator is the Daily Inspection — since the Daily calls for a check of the reservoir fluid level anyway.

If your dipstick reads LOW each



Daily — or every other one — you've definitely got leakage. If it's only a seep, though, there's no noticeable loss of fluid over a long period of time — even though it may look worse than the dipstick shows.

It's normal to find a light smear of fluid around the piston shaft at the outside of the cylinder body. This is caused by the action of the scraper ring on the piston shaft each time the cyclic

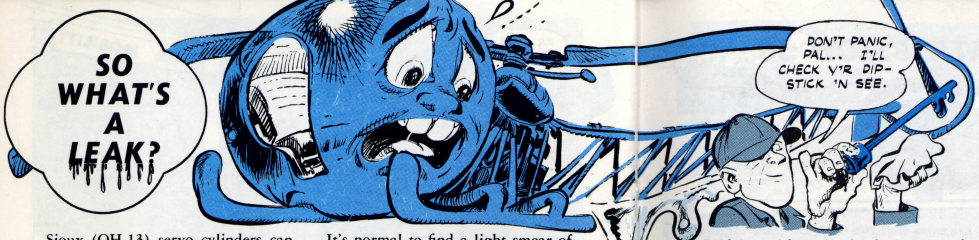


control linkage is moved. So the more you maneuver that bird, the more fluid seep you get around the piston shafts.

On larger aircraft, like a Chickasaw (UH-19), the loss of either power servo would be more critical due to heavier feedback pressures on the stick. But, as Project #2819 (UH-19) of Change 2 (5 Oct 64) to the EIR Digest points out, the important thing is whether the **leakage rate increases** from one flight to the next.

The comments on the same EIR project put the emphasis on determining the **amount** of leakage that can be tolerated without being a hazard to safe operation.

Comparing the OH-13, the situation can't really get too critical from servo



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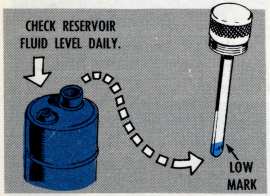

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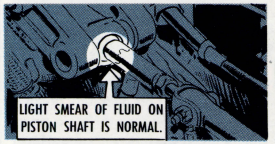

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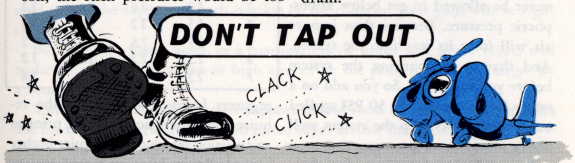
Comparing the OH-13, the situation can't really get too critical from servo fluid loss. After all, the fuel range of this ship won't let your bird stay airborne for longer than 2½ hours at most. And the full 1½ pints of hydraulic fluid in the reservoir can't possibly drain out in that short time . . . unless a line ruptures.

Even if the hydraulic pump hose should bust in flight, the irreversible valves would prevent excessive cyclic control feedback. The driver could override the remaining stick pressures with a little extra effort . . . and safely complete that mission.

With the larger UH-19, for comparison, the stick pressures would be too strong to control the ship unless autorotation was entered as soon as possible after the line ruptured. But even larger aircraft can be flown safely with a servo leak until almost all the hydraulic fluid is gone.

Something else to keep in mind on servos. Many times an aviator will complain of a sloppy or tight cyclic just after you've had one of the cylinders replaced. This sometimes leads to thinking that there's a bind or a fluid leak in the cylinder. More to the point, it's probably the result of an uneven "feel" on the stick — because the fore-aft and lateral cylinders were not installed as a pair, with a chance to grow old from wear together.

OK, then . . . once you've decided you've got leakage, you've still got to decide **when** it reaches the point where grounding the aircraft is required. If you replace servo power cylinders at the first drop of hydraulic fluid, the supply system will never stand the drain.



There's a place for shoes with taps on 'em — but it's not around a big gas bird where a spark could ruin your whole day.

Paragraph 25b of TM 55-405-1 (8 Nov 61), on general practices, says that when working around aircraft you should wear shoes without metal taps or protruding nails.

Those words of wisdom apply to the ground-type who refuels a bird, the mechanic who maintains a bird and the pilot who hits the draincocks before he flies a bird . . . everybody!

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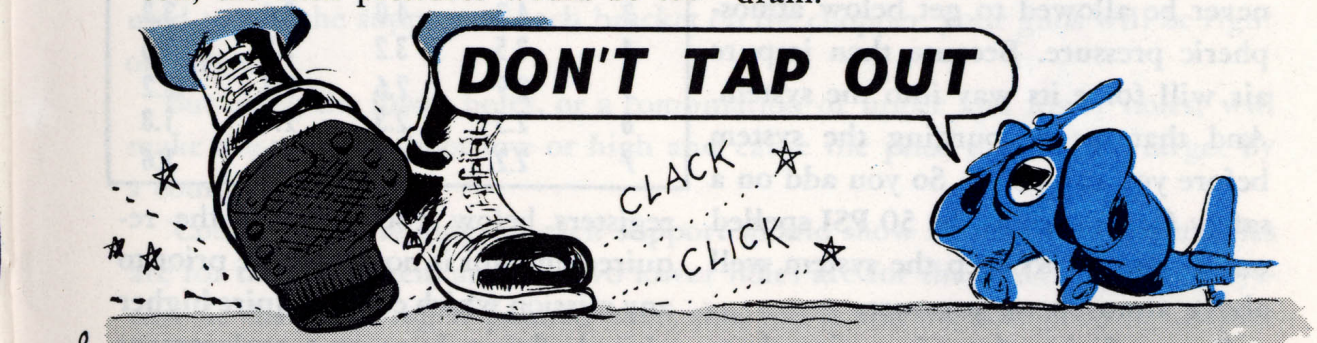

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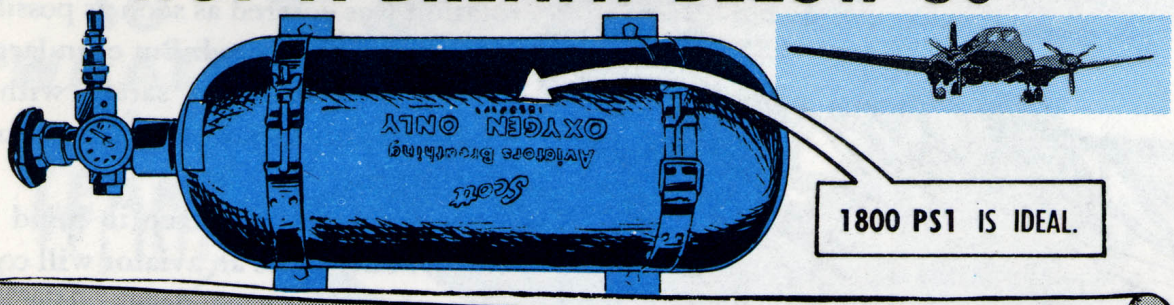
NOT A BREATH BELOW 50



Dear Windy,

What is the minimum registered pressure that the oxygen tanks for U-8D and U-8F type aircraft can show before they must be recharged?

SSgt C. R. A.

Dear Sergeant C. R. A.,

The absolute minimum is 50 PSI according to paras 10-224 and 10-247 of TM 55-1510-201-20 (Mar 62) for the Seminole. These are the two paragraphs which tell when to purge both the "D" and "F" oxygen systems.

The absolute ideal, of course, is to have 1800 PSI in the oxygen cylinder before each takeoff, just as para 4-93, Chapter 2, of the -10 (Feb 62) says.

From a strictly maintenance point of view, though, the oxygen system should never be allowed to get below atmospheric pressure. Because then impure air will force its way into the system. And that means purging the system before you can use it. So you add on a safety factor such as the 50 PSI spelled out in the -20 to keep the system well above atmospheric pressure.

From a flight safety viewpoint, there should be enough oxygen left to match the requirements of your aircraft's next mission. This you find out by checking the oxygen duration chart in the -10 manual. But since the chart is based on a fully charged tank, you have to do some arithmetic whenever the pressure registers below 1800 PSI. If the required amount is not available prior to any mission which could require higher altitude flying, hunt up a replacement cylinder.

OXYGEN DURATION CHART—U-8D

Persons Using	Duration in Hours at Following Altitudes 8000	10000	15000	20000	25000
1	17.7	14.4	9.4	7.1	5.7
2	8.9	7.2	4.7	3.5	2.9
3	5.9	4.8	3.1	2.4	1.9
4	4.4	3.6	2.4	1.8	1.4
5	3.5	2.9	1.9	1.4	1.1

OXYGEN DURATION CHART—U-8F

Persons Using	Duration in Hours at Following Altitudes 10000	15000	20000	25000
1	11.4	10.5	9.7	8.9
2	5.6	5.3	4.8	4.4
3	4.3	4.0	3.6	3.3
4	3.5	3.2	2.9	2.6
5	2.9	2.6	2.4	2.2
6	2.5	2.3	2.1	1.8
7	2.2	2.0	1.8	1.6

If a spare cylinder is not available, and there's no equipment available to recharge the old cylinder either, then the driver should be advised of this flight restriction—both orally and in writing (on the -13 maintenance form).

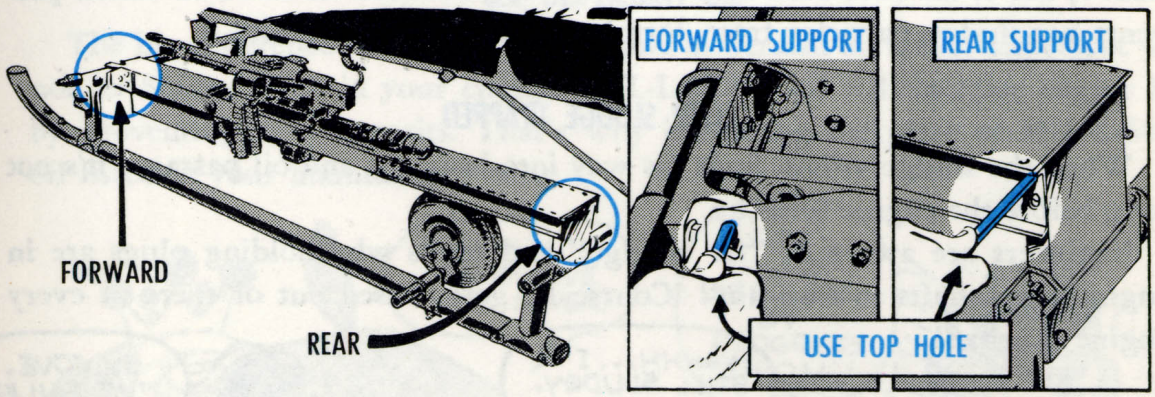
Windy

LEVEL YOUR WEAPONS

When a Raven (OH-23) pilot returns from a mission and says that he couldn't hit the broad side of a barn with the M60C (7.62-mm) machine guns, there might be more to his report than meets the eye.

No, it's not likely that a trip to an eye doctor will cure the problem! When the pilot can't even hit the target it's probably because of an elevation problem.

'Tis easy to figure when the M2 weapons system is put on and taken off, depending on the nature of the mission.



When the forward support upper hole and the rear support upper hole are used to pin the support to each bracket on the chopper, your guns will be right on target.

But using the lower holes, or a combination of upper and lower holes, will make the weapon shoot low or high and cause the pilot to miss the target by a country mile.

'Course the stenciling on each support should show that the two upper holes are for the M2 system and the two lower holes are for the XM1E1 (30 cal) system. If the stenciling is painted over, tho, you'll find the hole poop in Chapter 2, Section III of TM 9-1005-247-12 (8 Jan 64).

SIOUX ON TARGET?

You can get the same low- or high-firing problem with the M2 weapons system on your Sioux (OH-13H or OH-13S) where mounting plates are used instead of brackets. In this case the right way is with the forward mounting pin in the top hole and the rear mounting pin in the bottom hole of the plate.

So-o-o-o . . . the next time the mission calls for using a weapons system, mount 'er in the right hole and you'll be on target—every time.

DISPERSANT OIL

The search for a better mouse trap is a never-ending one . . . that's progress.

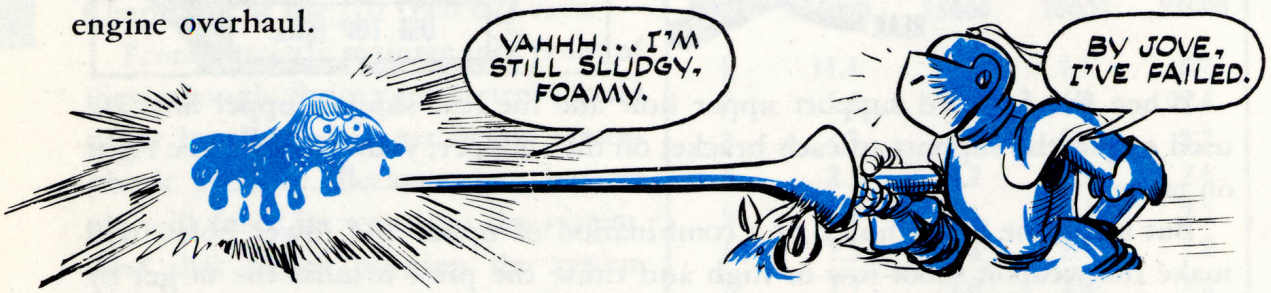
Small wonder crew chiefs are anxious to latch on to the newest advance from the petroleum industry for aircraft piston engines—dispersant lubricating oil.

When it comes to keeping engines clean, dispersant oil, Specification MIL-L-22851, has it all over MIL-L-6082. The dispersant has an additive which prevents pre-sludge particles from forming into harmful deposits.

KEEP SLUDGE TRAPPED

When the sludge villain finds his way into bearings and oil passages it's not long before the engine folds up.

Engineers are aware of "Ol' Sludge" and that's why holding plugs are in engine crankshafts to trap him! 'Course he gets chased out of there at every engine overhaul.



If you're using MIL-L-6082 oil right now, chances are Sludge is inside the engine. You wouldn't want to set him loose in the oil flow either—that would be asking for it!

Take the recent case of a Choctaw (CH-34) on a cross-country.

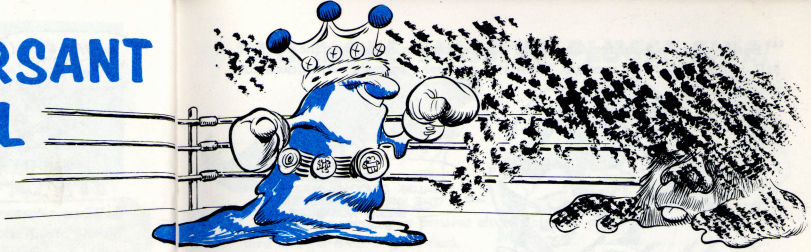
When the pilot was offered a detergent oil that was "guaranteed to keep his engine clean" he figured this was just what the doctor ordered.

Now this-here detergent oil happened to have a large amount of cyclohexanone in it. And for cleaning, this chemical has the white knight brand beat a mile.

Two quarts of detergent oil and several hours later the bird was back at home base where SOP called for eyeing the engine oil screens.

Well . . . you could have bowled the crew chief over with a feather! Sludge

DISPERSANT OIL



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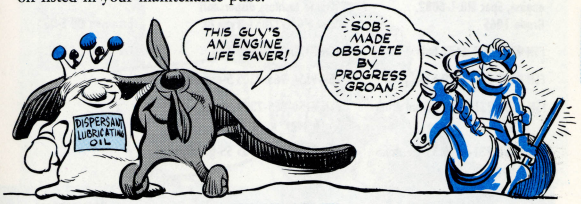
Two quarts of detergent oil and several hours later the bird was back at home base where SOP called for eyeing the engine oil screens.

Well . . . you could have bowled the crew chief over with a feather! Sludge had done his dirty work with a thick coating on the screens. Another few minutes in the air and the pilot would have had an in-flight failure. 'Course sludge's vacated home—the sludge plug—was clean as a whistle.

USE DISPERSANT OIL

The big difference between detergent and dispersant oil is that dispersant will not let Sludge loose in your engine. MIL-L-22851 oil will increase engine life by preventing new deposits. That's why it's taking the place of MIL-L-6082 oil listed in your maintenance pubs.



YOU CAN MIX 'EM

When you're actually ready to use dispersant oil, don't de-sludge the engine. You want deposits to stay put.

The first step is to clean all the oil strainers as outlined in the maintenance pub for your bird.

Next, add MIL-L-22851 oil to the MIL-L-6082 oil already in the crankcase. They get together just fine so you can mix them in all proportions.

Then, after every 10 hours of operation, it's a capital idea to eye the strainers for cleanliness until you reach the 50-hour mark. From then on, follow your SOP of cleaning the strainers at each oil change, sure 'nuff.

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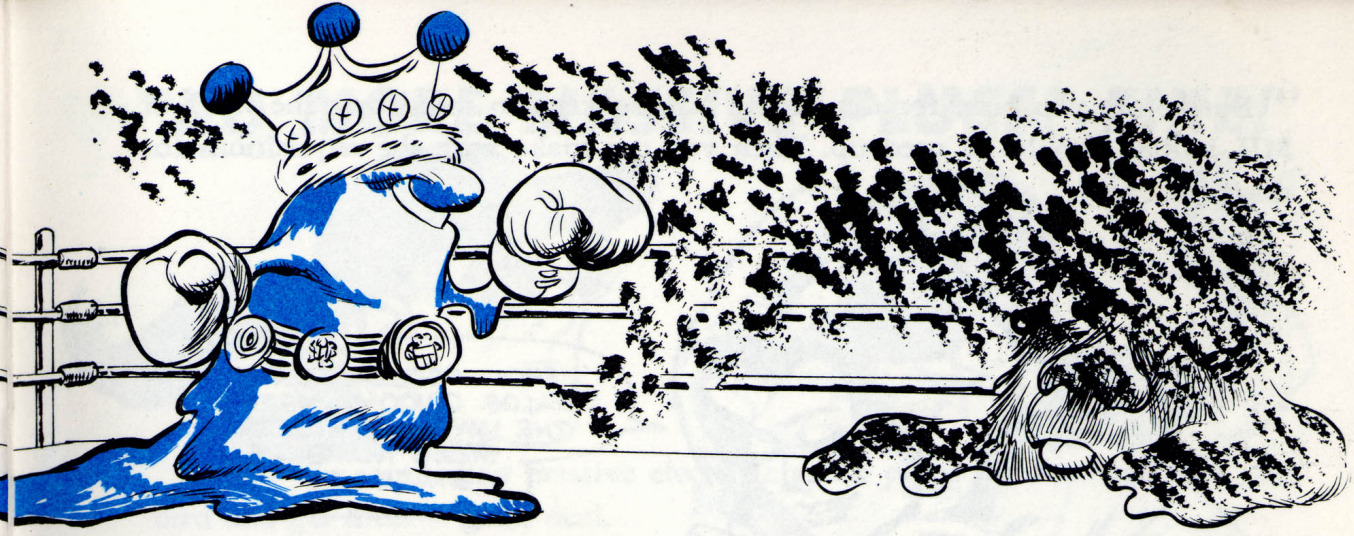

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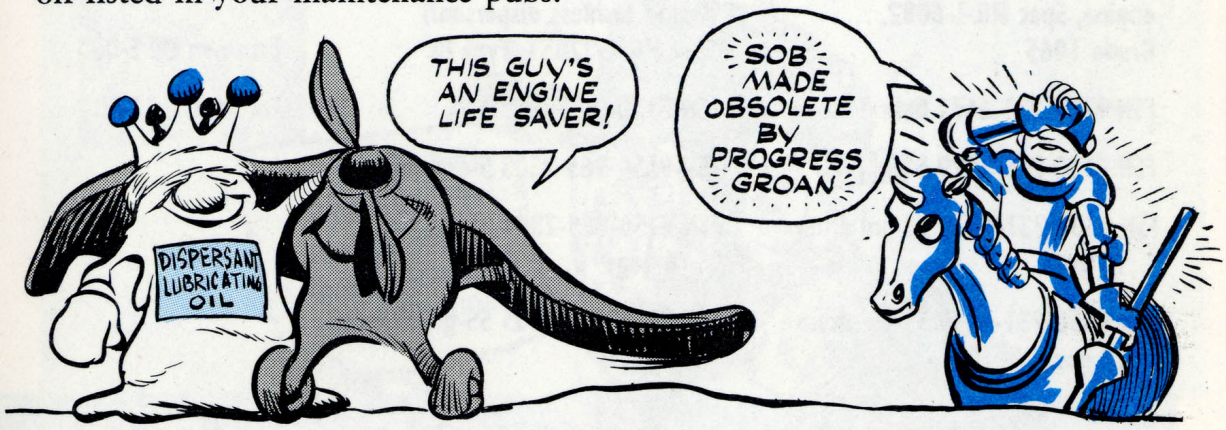

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But before you head for the supply catalog keep in mind that the stock of MIL-L-6082 should be used up. Then you can make with the requisitions for dispersant oil.

USE	THEN USE	COMMERCIAL EQUIVALENT
Lubricating oil, aircraft piston engine, Spec MIL-L-6082, Grade 1065	Lubricating oil, aircraft piston engine (ashless dispersant) Spec MIL-L-22851, Type III	Aeroshell W-80
FSN 9150-231-6671 bulk	FSN 9150-965-2302 bulk	Esso Avn Oil E-80
FSN 9150-255-3929 5-gal pail	FSN 9150-965-2303 5-gal pail	Enco Avn Oil E-80
FSN 9150-231-6670 55-gal drum, 16 gage	FSN 9150-965-2304 55-gal drum, 16 gage	
FSN 9150-231-6669 55-gal drum, 18 gage	FSN 9150-965-2305 55-gal drum, 18 gage	

OR USE	THEN USE	COMMERCIAL EQUIVALENT
Lubricating oil, aircraft piston engine, Spec MIL-L-6082, Grade 1100	Lubricating oil, aircraft piston engine (ashless dispersant) Spec MIL-L-22851, Type II	Aeroshell W-120 Aeroshell W-120 (1)
FSN 9150-682-6695 bulk	FSN 9150-753-5059 bulk	Esso Avn Oil E-120
FSN 9150-682-6696 55-gal drum, 16 gage	FSN 9150-753-5060 5-gal pail FSN 9150-082-2449 55-gal drum, 16 gage	Enco Avn Oil E-120 Ashland Valvoline
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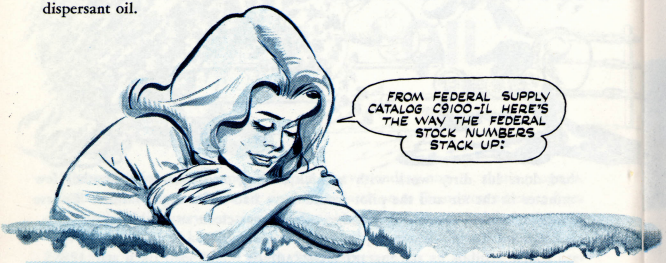

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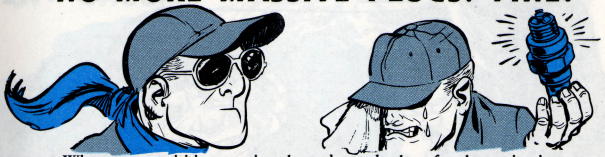

When you requisition massive electrode spark plugs for the engine in your bird and get them—good deal.

If you requisition massive plugs and get fine wire electrode plugs, tho, no sweat!

The massive plugs have been downgraded from "A" Standard to "B" Alternate. No more will be bought.

'Course you want to continue to use the massive babies listed in the parts pub for your bird, until the supply on hand is used up.

M24 PROTECTIVE MASK

Caution air-types—

Better heed the real important warning which is packed in each box of your M24 aircraft protective masks.

The note deals with the mask's eyelens, which is made of flexible vinyl and is easily distorted. Among other things the note says to handle the mask carefully—no rough stuff at all, like it says in Chap 2, TM 3-4240-219-15. The eyelens must be protected against greasy smudges, scratches and distortion.

Also, the M24 may take some getting used to. 'Cause, when you first put it on you'll note some loss in depth perception when you look through the bottom section of the eyelens. At first you may also experience slight vision distortion caused by the flexible vinyl eyelens.

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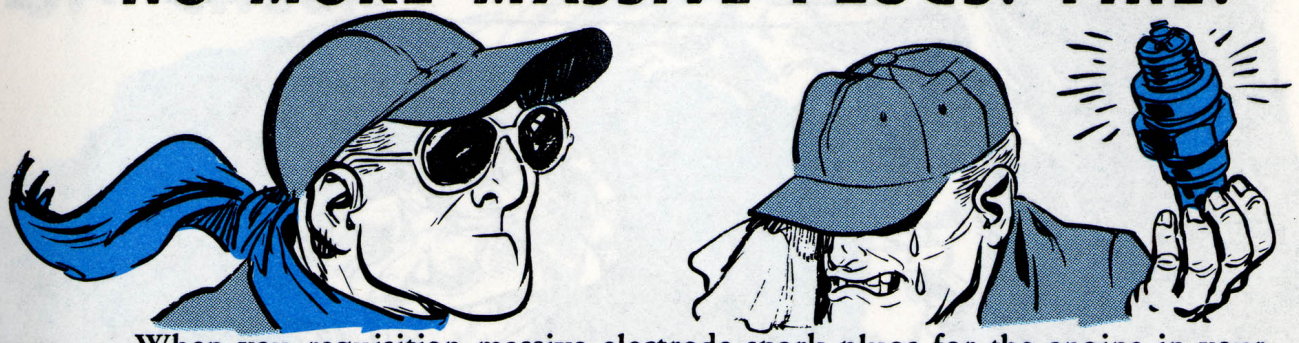

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MAKE THE

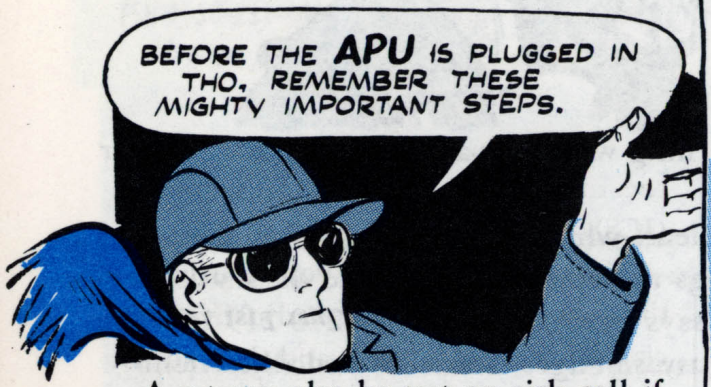
There will be times, no doubt, when a flightline radio mechanic can't get a peep out of the set in a bird. But a silent black box isn't a signal to decide that the set is kaput—not by a long shot!

There's no need to suspect the worse until you've made the operational check called out in the avionics section of your bird's PM pub.

Take the Beaver (U-6A) with an AN/ARC-55 UHF set. The "Op" check is spelled out in Chapter 2, Section XIV of TM 55-1510-203-20 (29 Aug 63) . . . on page 14-20.

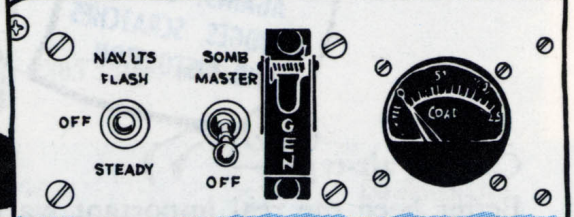
GUARD YOUR SET

But before you climb into the cockpit remember that with an "assist" from the crew chief an auxiliary power unit can be used in order to save the battery.

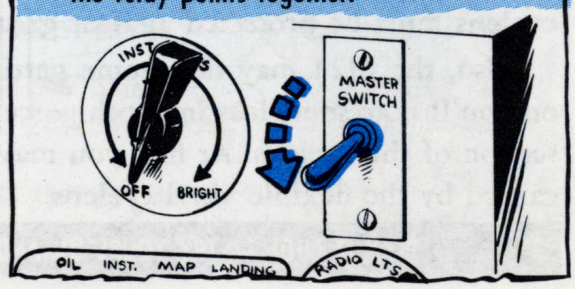


A set can also be put on sick call if it's turned on before a bird is started. 'Tis easy to figure when the voltage surge built up by the starter energizer lets go . . . the tubes and transistors take it on the chin!

1. Turn off the GEN switch on the electrical switch panel.



2. Turn the master switch on the starter panel to OFF. If the switch is put ON, both the battery and APU voltage is fed into the master relay and all that juice will weld the relay points together.



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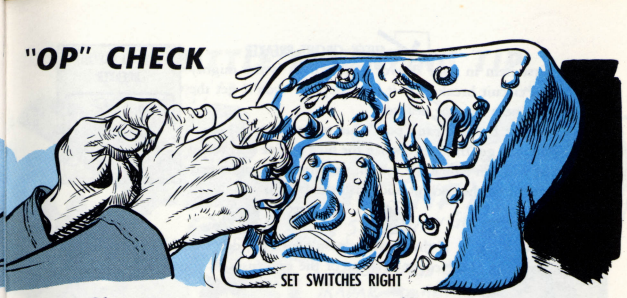

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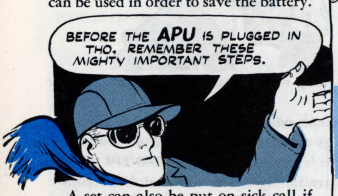

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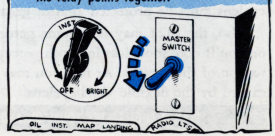

Of course you never want to overlook the obvious—switches set in the wrong position. This is the reason for the control switch position table in the avionics section.

This is quite common in the Bird Dog (O-1) with the AN/ARC-44. If

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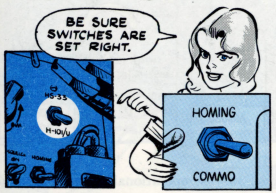

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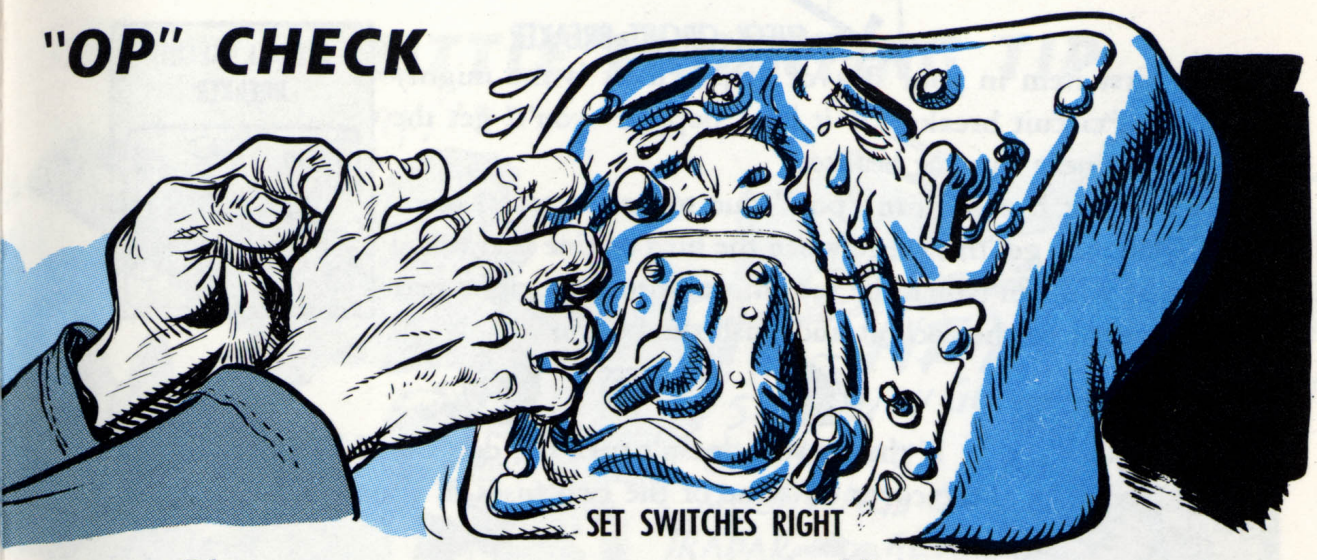
When you're making the Beaver "Op" check be sure the FM power switch on the radio panel is on, connecting you into intercom. Otherwise you will be broadcasting on the AN/ARC-55. The tower operators take a dim view of small talk!!!

To prevent this same type of revoltin' development on the AN/ARC-55 in the Iroquois (UH-1) and Raven (OH-23) the power switch is set on the interphone communication system (ICS).

No matter what set you're using in the Beaver tho, be sure to adjust volume control at least ¾ turn and then adjust the volume on the SB-329/AR audio distribution panel. If you adjust these controls basackwards, you'll get too much feed back because the pilots and co-pilots microphones are close together.

MORE

"OP" CHECK



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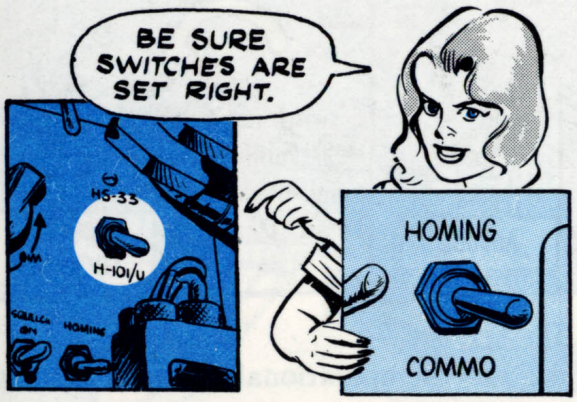

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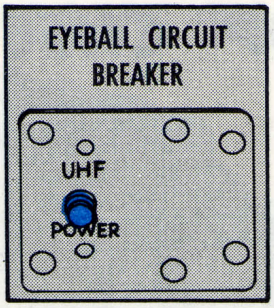
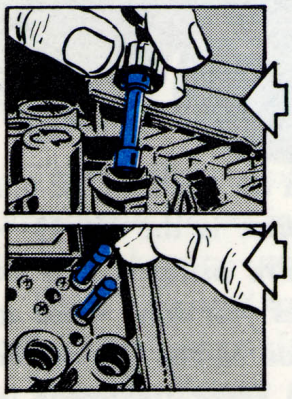
CHECK CIRCUIT BREAKER



The first item in your Beaver "Op" check is the mighty important circuit breaker. If it has "popped" you'll get the silent treatment in your headset.

The circuit breaker can "pop" due to an electrical overload. You may get this surge when the bird engine is cranked up. So, if you can't turn the set on, unbutton the right rear compartment of the cockpit and push the button.

EYE FUSES



If the set still doesn't turn on, don't pull it! Instead, take the cover off. One of the two fuses in your RT-349 may be shot.

You'll find two spare fuses at the rear of the set.

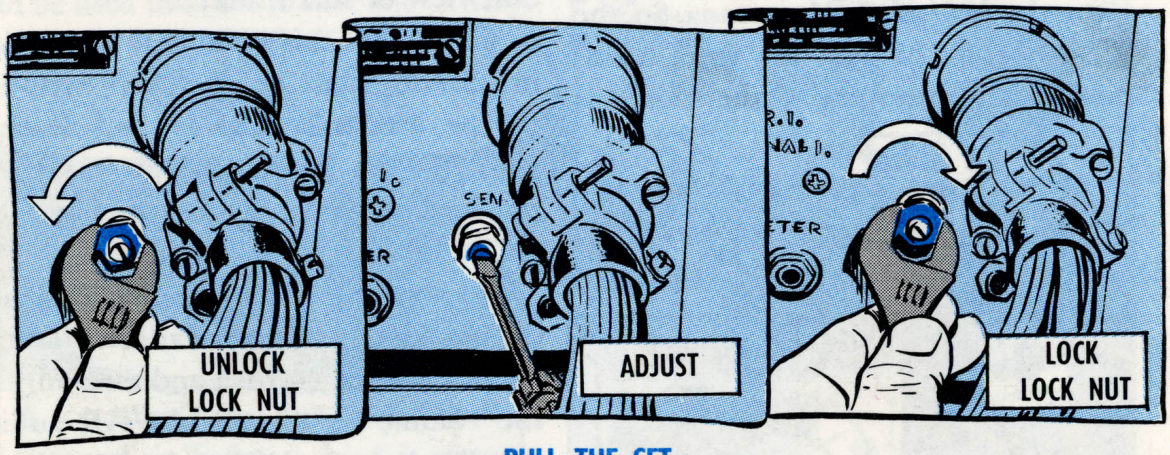
Once you have juice to the set you can go on with the "Op" check until you find the trouble.

SQUELCH LOUD AND CLEAR?

No matter what set you're pulling the "Op" check on, tho, one adjustment that should be on the money is the SENS control.

The adjustment poop for your Beaver is in Chapter 2, Section XIV, Paragraph 14-152 of the organizational maintenance pub.

So, if too much background noise, or none at all, is the problem with your AN/ARC-55 the squelch adjustment is probably out of whack. An adjustable wrench and screwdriver is all it takes to put 'er in the A-OK category.

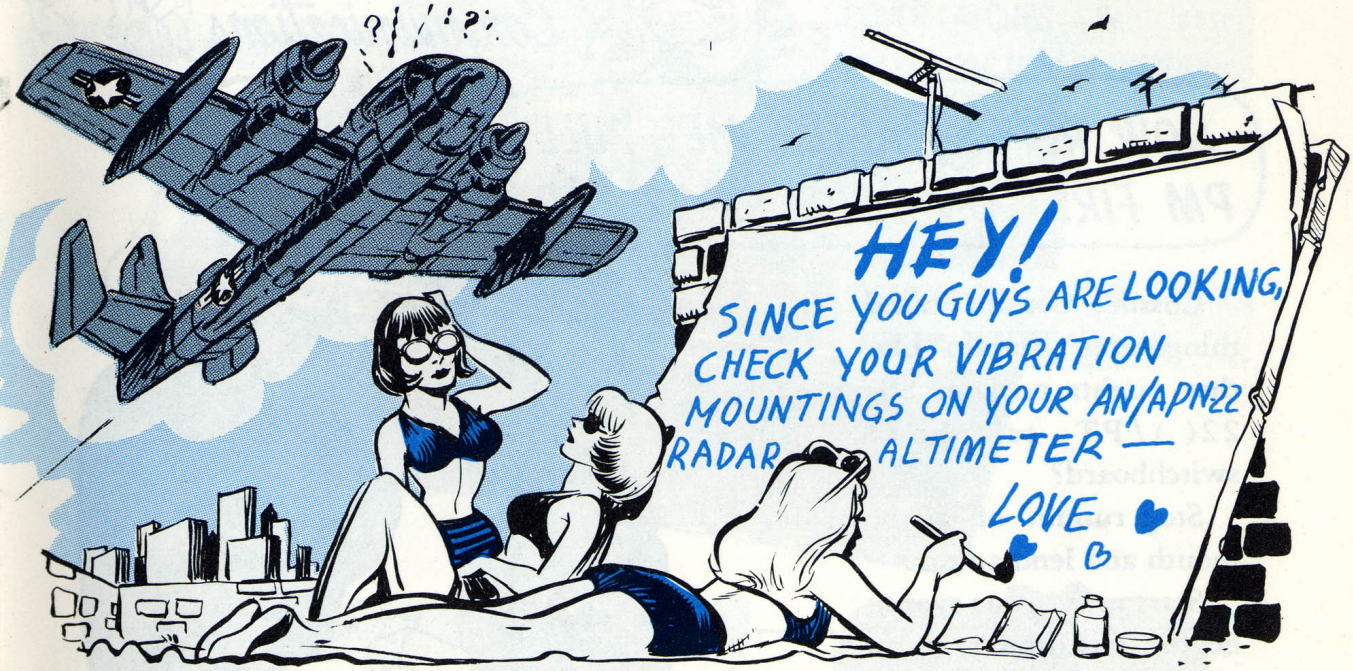


PULL THE SET

Of course when you get certain conditions, the operational checklist calls for removing the receiver-transmitter and sending it to your support.

When the set does go back, tho, it won't be for a fuse or a simple adjustment by heck—because you've **made** the "Op" check.

LITTLE MOUNTING TIP

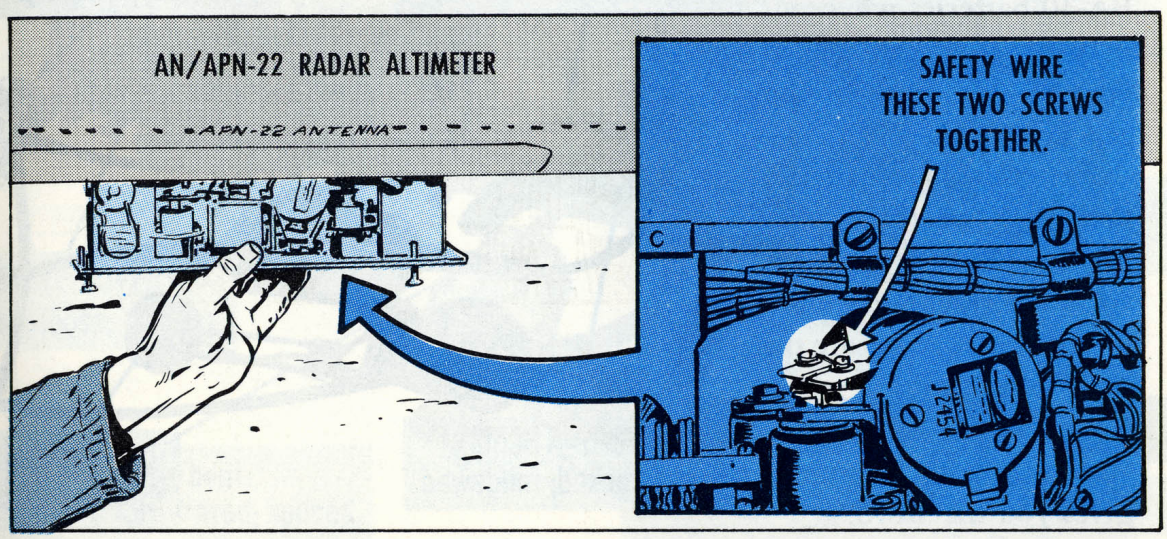


Better make a check right away on the RT-160 vibration mountings of the AN/APN-22 radar altimeter in your Mohawk (OV-1).

Been some word to the effect that the magnetron mounting is sometimes found loose or separated from the vibration isolator mountings. A screw or two on the loose, you might say.

To really sew up the situation, you can replace the mounting screws with fillister head screws, FSN 5305-059-3404, which come with drilled holes. Then you can safety wire the screws together.

Your TM 11-5841-216-25 (Jan 63), with Change 2, tells you in Item 21, page 26, to check the vibration mounts quarterly. But unless you've got 'em snugged up and safety wired, you'll want to eyeball 'em a little more often.



Communications

NOW REPEAT AFTER ME—PULL PM FIRST ON YOUR SB-22( )/PT

Cussin', Cousin, 'cause things aren't buzzin' like they oughta on your SB-22( )/PT telephone switchboard?

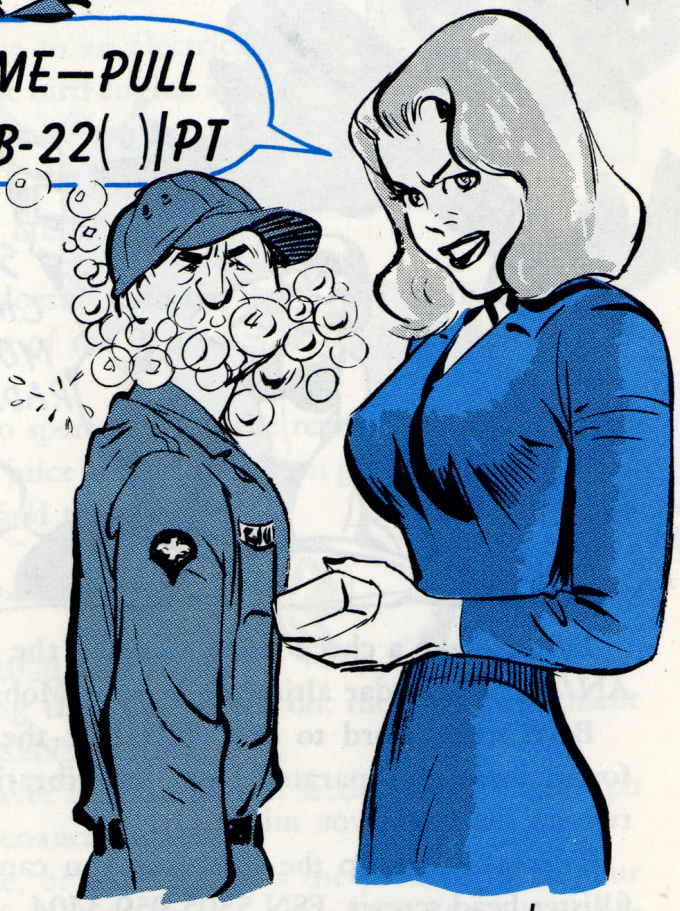
Stop runnin' off at the mouth and lend an ear.

Start using your eyes to be the wised-up type on proper care for switchboard wear.

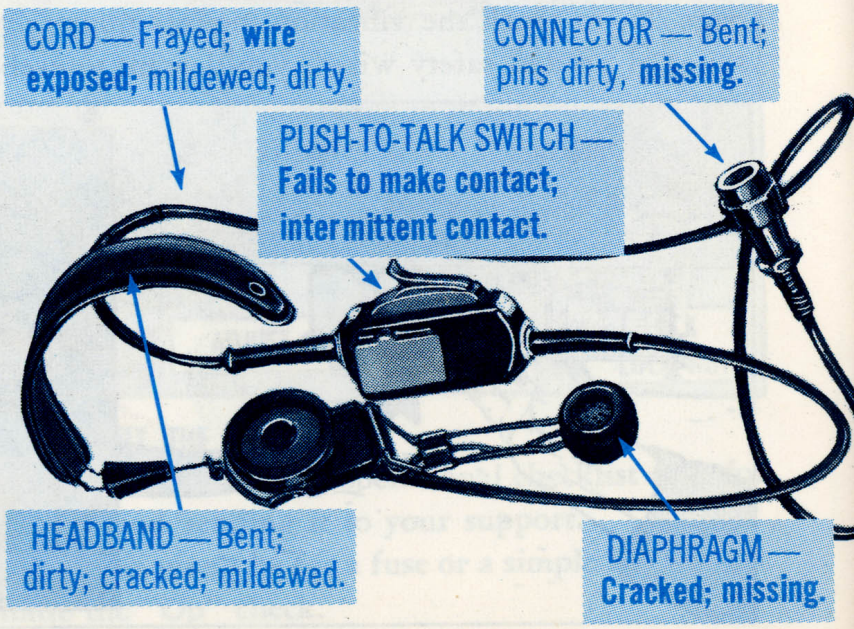
Keeping dust, dirt, corrosion and moisture off electrical contacts is a must. They can shorten . . . or put a stop to a lotta conversations at the wrong time.

Another thing to keep in mind is **REMOVE** those BA-30 batteries when not in use. They can eat at your SB-22 quicker'n you can say "hold one!"

Faster than you can read this, you can check your SB. The **bold type** items are real serious and should be taken care of before the next plug-pushing time. Your TM 11-5805-262-12 (Dec 60) with Change 1 gives you the word.



HANDSET-HEADSET H-81A/U OR H-144 ( )/U



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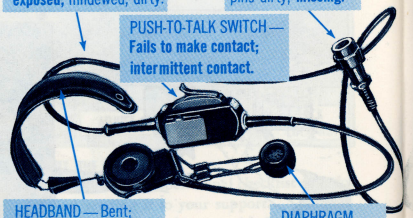
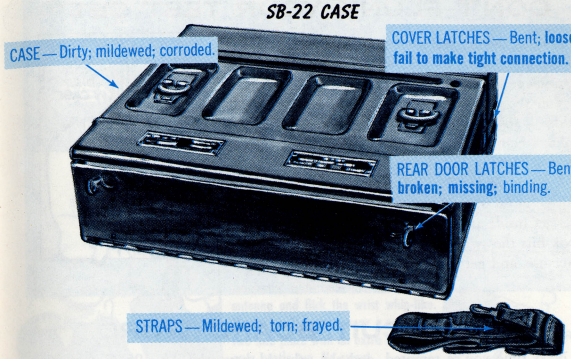
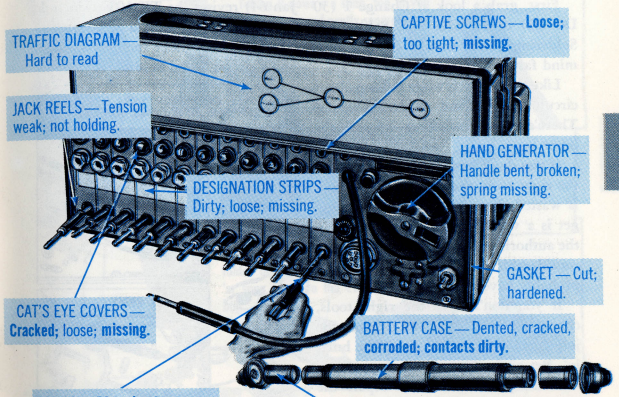


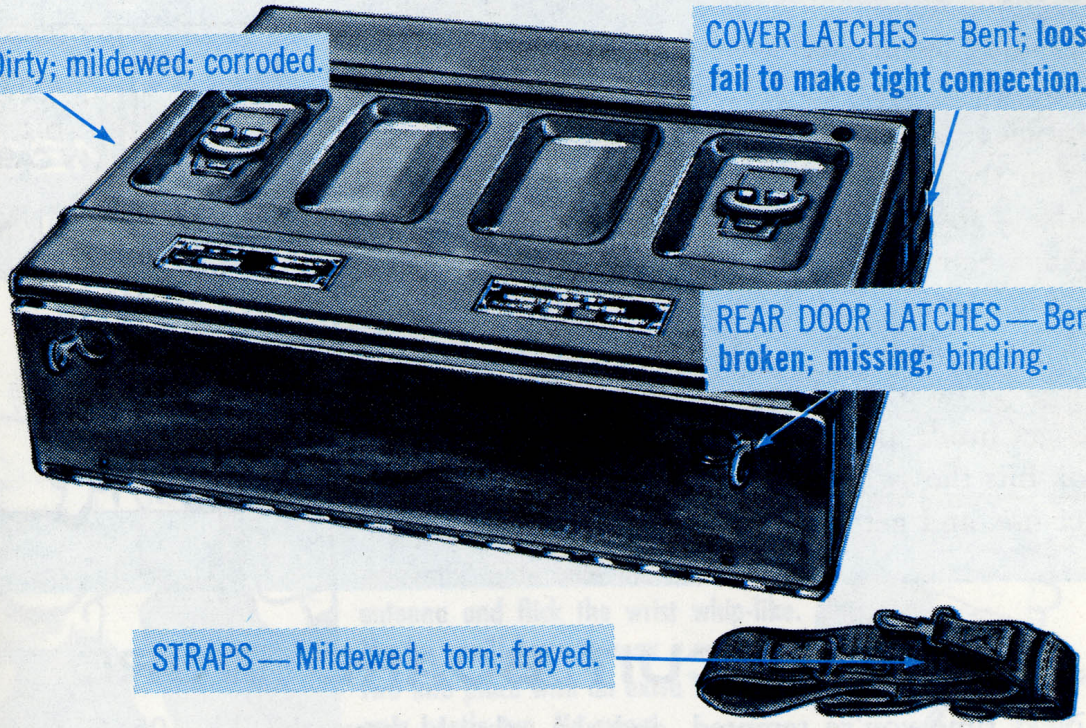
SB-22 CASE



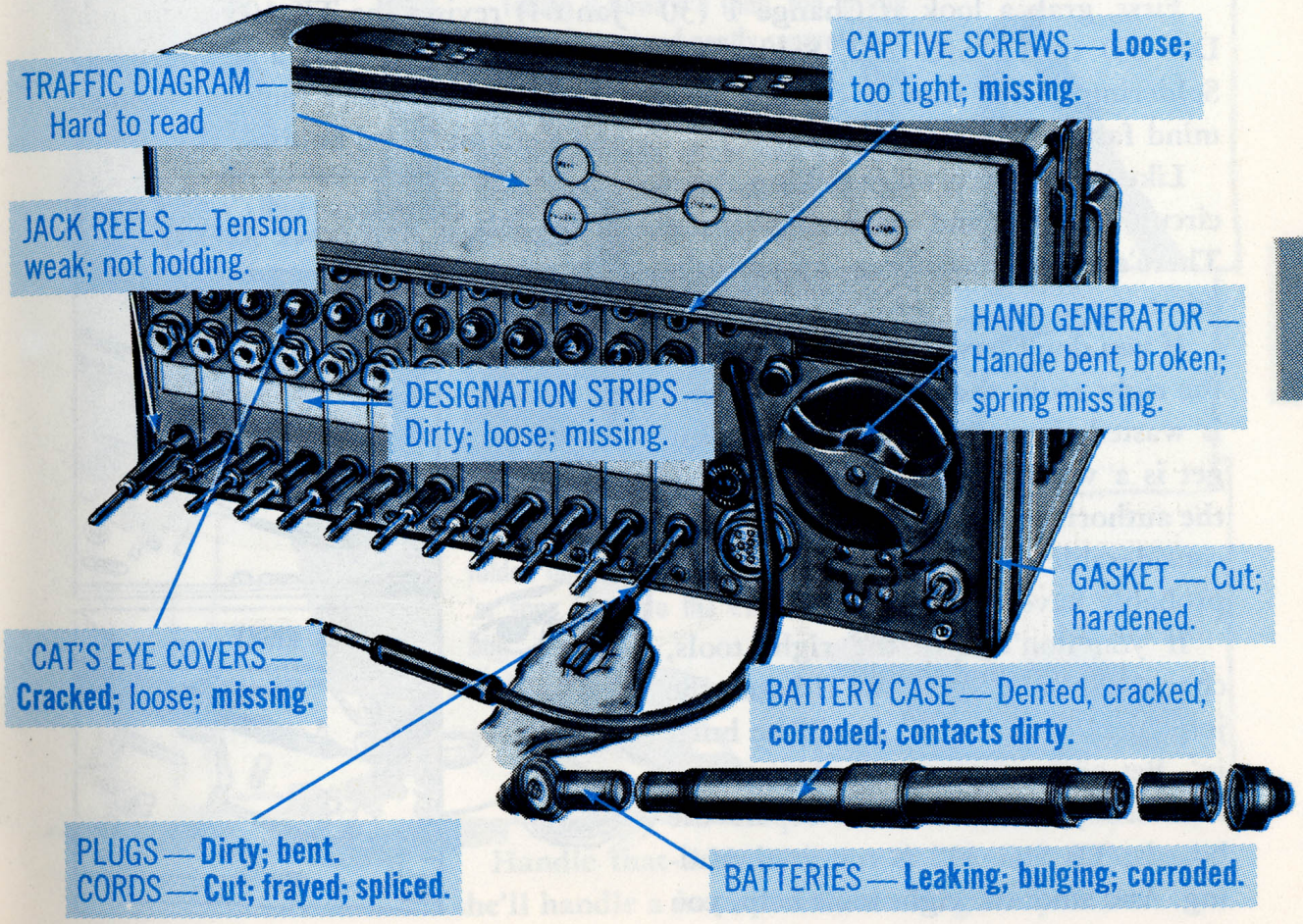
TA-222 AND TA-221 CIRCUIT PANEL



SB-22 CASE



TA-222 AND TA-221 CIRCUIT PANEL

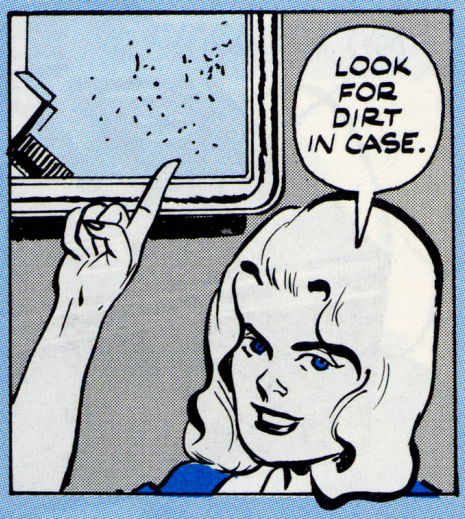


DON'T FLUNK YOUR TEST SET

Leaving the dry-cell batteries in test sets, such as the TS-26 and TS-352, when you store the equipment can flunk the sets out quick-like.

You shouldn't store the sets with batteries. And . . . inspect the batteries for swelling and leakage before you use them. If they're not in good condition, replace them.

A point on the TV-7/U tube tester: Those jobs get a lot of field use, where dirt, sand and grit get inside and hurt—especially when that gook hits the switch contacts. Inspect the cases after use, and get the dirt out.



THE CIRCUIT BOARD WORD

Next time you're tempted, and the job looks easy, don't!

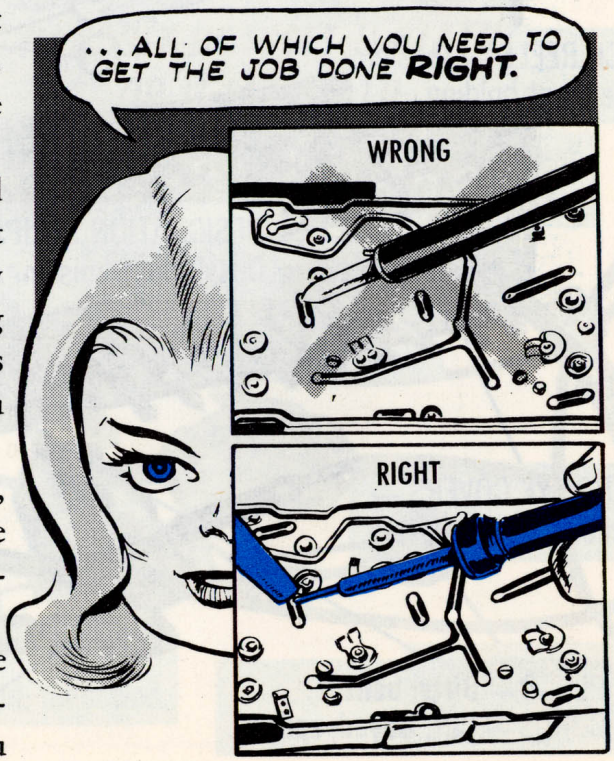
First, grab a look at Change 1 (30 Dec 63) to TB SIG 222, Solder and Soldering. That should change your mind fast.

Like you suspect, we're talking about circuit boards and soldering irons. There's a trick to mating one with the other.

If you don't have the know-how and the right tools, the best you can expect is wasted time. What you'll probably get is a wasted circuit board. Having the authority to repair the boards helps considerable . . . since, in that case, you probably have the right tools.

If you don't have the right tools, chances are real good you'll botch the job. Instead of helpin', you'll be hurtin'. Bet on it.

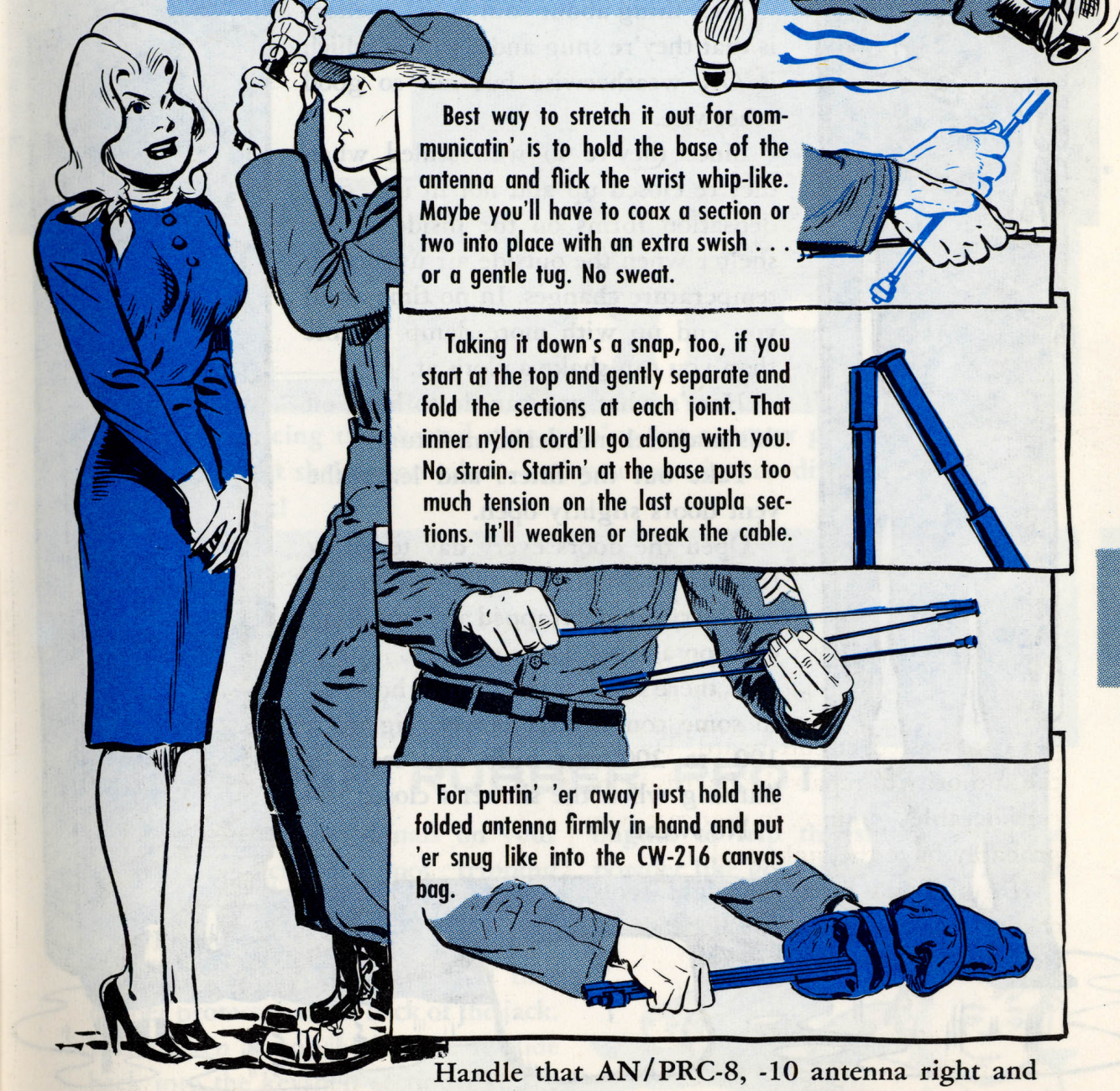
If it's your business to repair the boards, TB SIG 222 is required reading. And since the right tools help, you should have the TK-105/G tool kit (FSN 5180-610-8177). SB 11-574 (4 Jan 64) revises the TK-105 to include a soldering iron with a temperature-controlled tip, solder removal syringe, and a circuit board holding vise . . .



WHIP IT — BUT GENTLE LIKE

Care's the word when you're putting up,

pulling down or putting away the AT-271 antenna of your Perk -8,-10 Radio.



Best way to stretch it out for communicatin' is to hold the base of the antenna and flick the wrist whip-like. Maybe you'll have to coax a section or two into place with an extra swish . . . or a gentle tug. No sweat.

Taking it down's a snap, too, if you start at the top and gently separate and fold the sections at each joint. That inner nylon cord'll go along with you. No strain. Startin' at the base puts too much tension on the last coupla sections. It'll weaken or break the cable.

For puttin' 'er away just hold the folded antenna firmly in hand and put 'er snug like into the CW-216 canvas bag.

Handle that AN/PRC-8, -10 antenna right and she'll handle a lotta communicating for you.

NO SWEAT NOW

Nice thing about your S-141 shelters is that they're snug and tight — which is OK weatherwise but not so good otherwise.

Since they're so well sealed when they're closed up and not in use, condensation forms on the inside of the shelter when the outside air undergoes temperature changes. In no time at all you end up with more damp trouble than you can shake a cloth at.

Here's what you can do to head off this materiel murderin' moisture:

Take out the filters and leave the vent doors slightly open.

Open the doors every day to allow fresh air to circulate through the shelter and carry out the trapped air. Just don't do it on a rainy day, though.

If there's any way at all to hook on to some commercial power, rig up a 100- to 200-watt bulb and leave it burning when the shelter's closed.

No sweat.

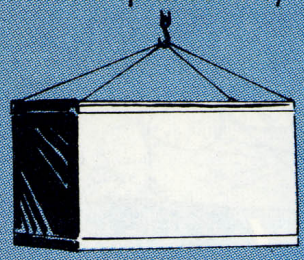
THE SHELTERED LIFE

Only a kook would bust the gusset of his S-141/G or S-144/G commo shelter via the bang, poke, pop and pull route. Right?

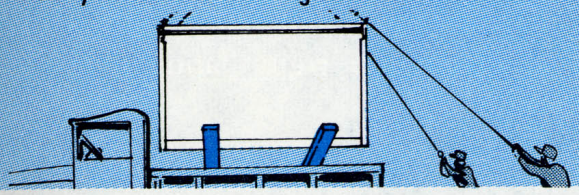
But you, you'd brush up on your shelter handling technique as per TB SIG 354 . . . and never even give a thought to jerkin' the shelter off a truck. Or . . . poppin' its seams by splattering it on the ground. Or . . . tease it into place with a forklift. Of course not!

What you would do is:

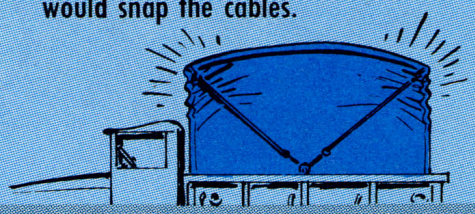
1. Lift the shelter up or down by its lifting eyes.



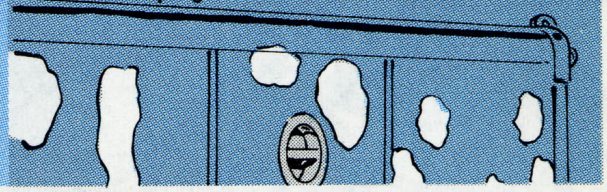
2. Use 2 x 4's and guide ropes to avoid side-sway and strain on sling cables.



3. Tie the shelter down snug before transporting it . . . but not so tight that sway would snap the cables.



4. Patch punctures soonest to keep moisture from seeping in.



Natcherly, being the shrewd type, you've got a pretty good idea just what that lightweight shelter can take—and you treat it accordingly.

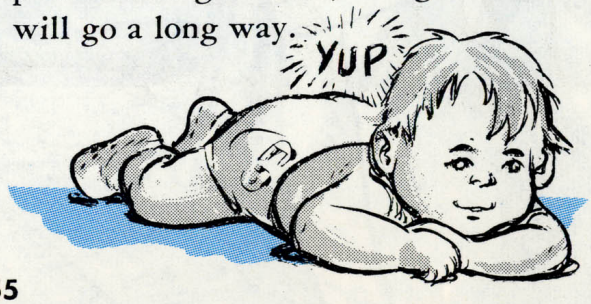
Right? Right!

UNTANGLED CABLE FSN'S

Stop pulling your hair out, Harry, over those Angry-19 power cable assemblies. You can get CX-2583/U with FSN 5995-752-1282. FSN 5995-349-4844 listed in TM 11-5820-295-10 (Jun 63) is for CX-1852/U cable assembly. The cables are getting straightened out in a TM change.

POWDER RUBBER PROTECTOR

Those supervisory signals on your SB-86/P switchboard not tripping when the cord's lowered in the plug seat? No sweat. Put talcum powder on your pinkies and rub it around that rubber protector at the back of the jack. It'll slicken 'er up and make it slide back into the keyshelf section.like she oughta to trip the signal. Pour the powder like gold dust, though. A little will go a long way.



FOR SAFE MOBILE FUEL HANDLING . . .
You Can't Beat
THESE "JELLYBEANS" ARE THE GREATEST THING SINCE FIVE GALLON CANS FOR FRONT LINE REFUELING OPERATIONS.
For refueling operations in front line or isolated areas, your 500-gallon collapsible fuel drums are right handy items to have around.
Fact is, you can be in real trouble without 'em.
You can deliver these drums by air as cargo, or air drop 'em by parachute, pick 'em up and deliver 'em by helicopter, use 'em for fuel storage, and for making tankers out of your cargo trucks or personnel carriers. But, you never drop 'em free-fall from any aircraft.
Natcherly, these drums aren't as rugged as steel drums, but if you handle 'em right, they'll do a fine job for you. You've got to remember that they're made of fabric and

You Can't Beat These DRUMS

For refueling operations in front line or isolated areas, your 500-gallon collapsible fuel drums are right handy items to have around.

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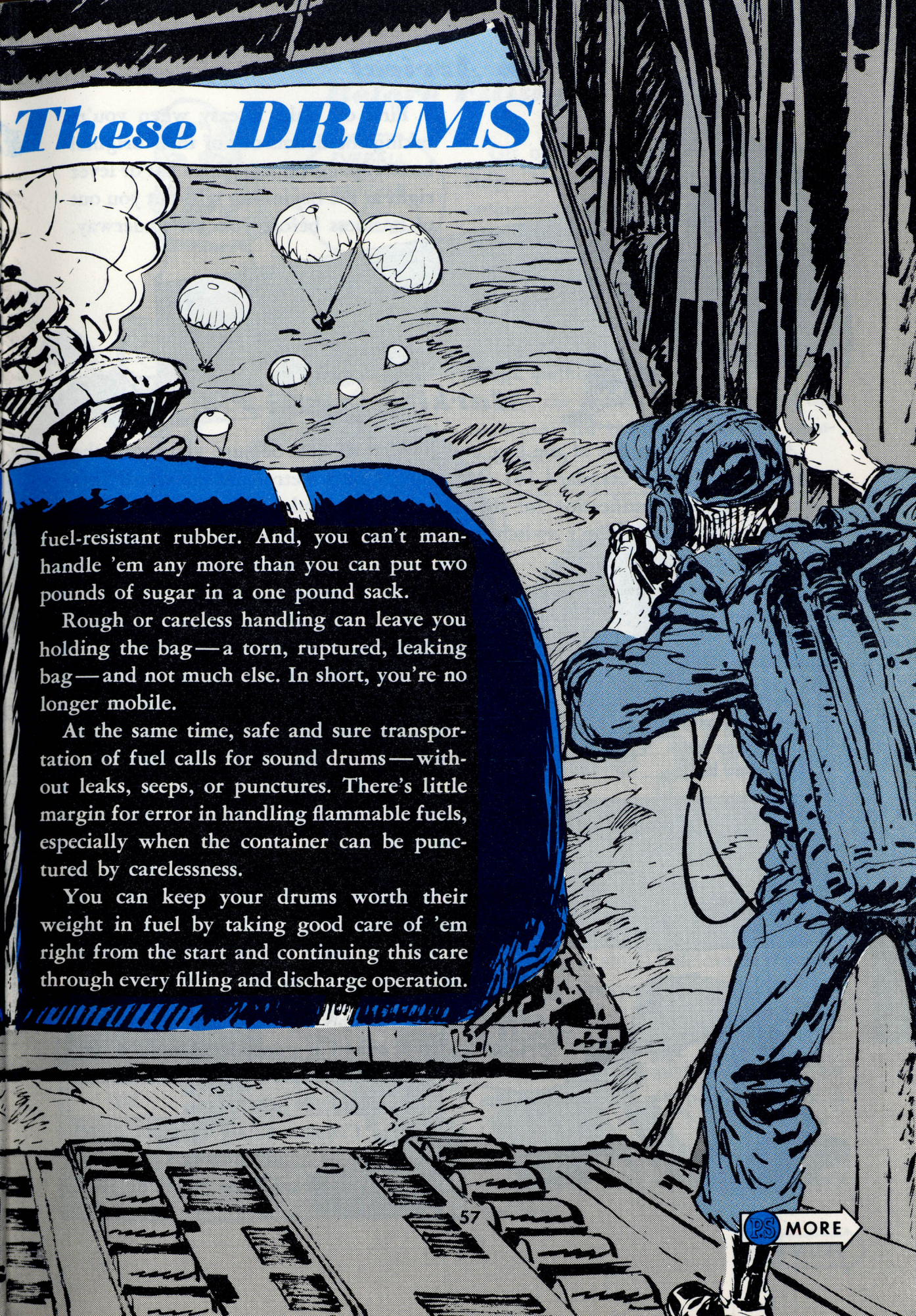
Natcherly, these drums aren't as rugged as steel drums, but if you handle 'em right, they'll do a fine job for you. You've got to remember that they're made of fabric and fuel-resistant rubber. And, you can't manhandle 'em any more than you can put two pounds of sugar in a one pound sack.

Rough or careless handling can leave you holding the bag—a torn, ruptured, leaking bag—and not much else. In short, you're no longer mobile.

At the same time, safe and sure transportation of fuel calls for sound drums—without leaks, seeps, or punctures. There's little margin for error in handling flammable fuels, especially when the container can be punctured by carelessness.

You can keep your drums worth their weight in fuel by taking good care of 'em right from the start and continuing this care through every filling and discharge operation.

MORE


These DRUMS
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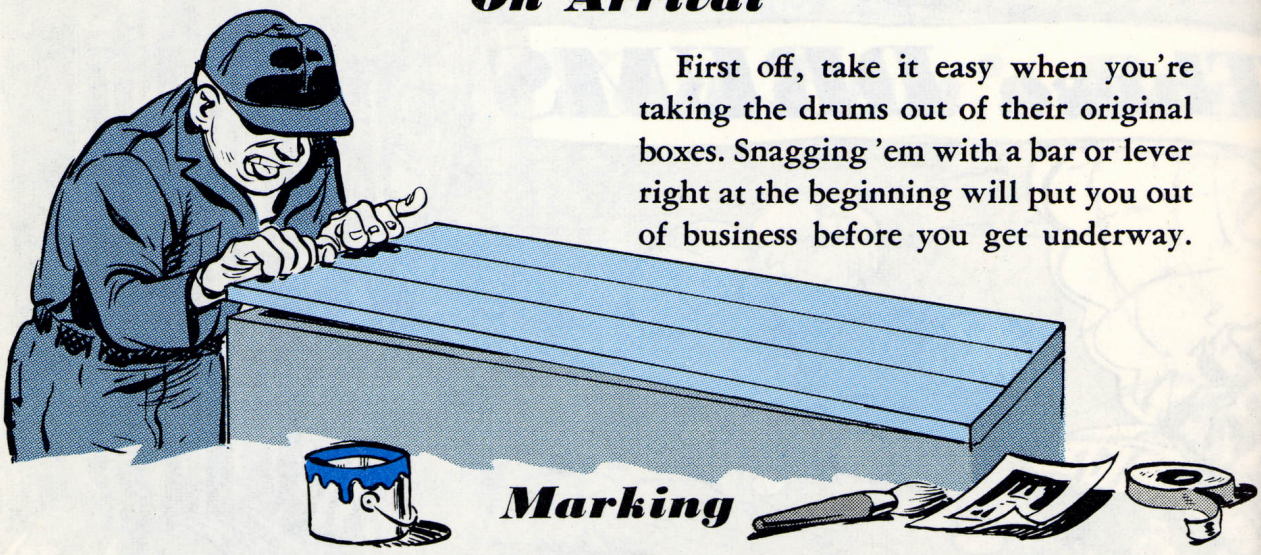
57
P.S. MORE

On Arrival



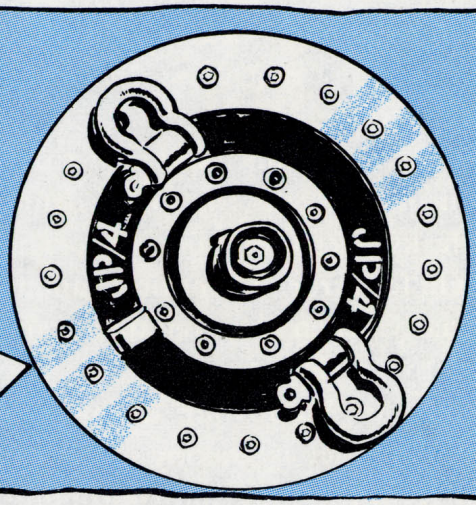
First off, take it easy when you're taking the drums out of their original boxes. Snagging 'em with a bar or lever right at the beginning will put you out of business before you get underway.

Marking

After taking 'em out of the box and inspecting 'em, be sure you mark the drums like Military Standard 161 (Marking of Bulk Petroleum Standard) says with the right identification for the fuel they're intended to hold. This is real important since you can't switch fuel containers without cleaning 'em and changing the marking.

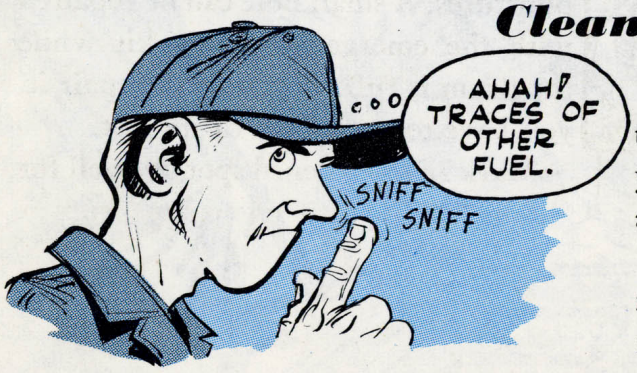
You stencil yellow bands and the fuel name on the end plate of the drums as follows:

One yellow band	Avgas 115/145
Two yellow bands	Mogas
Three yellow bands	JP-4
Four yellow bands	Diesel



After you stencil the drums, you clean 'em.

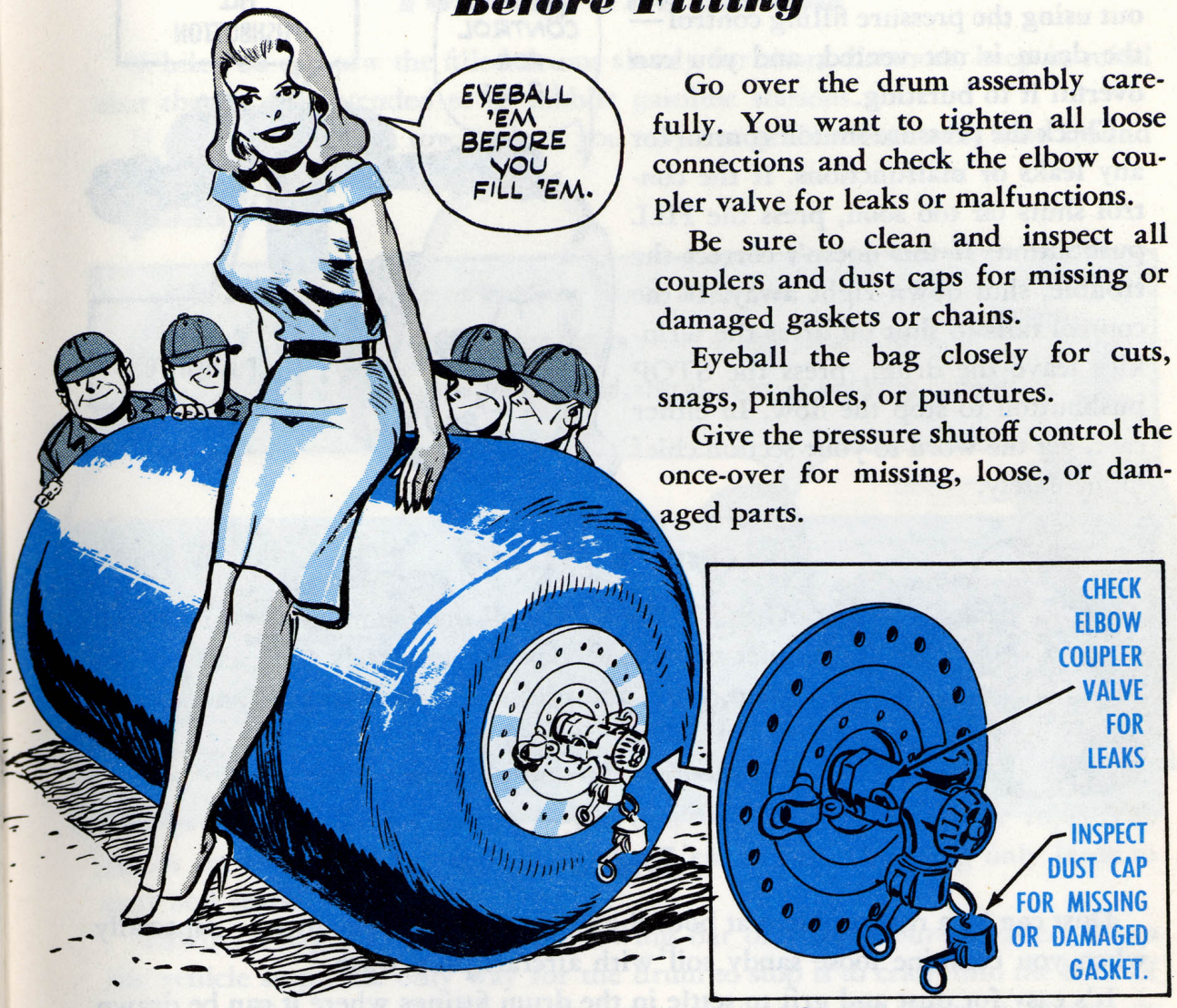
Cleaning



Any time you change the type of fuel to be stored or transported in the drum, you have to clean it real well to remove all traces of the other fuel.

As a f'rinstance, all traces of diesel fuel must be removed from a tank that is going to be used for Avgas or JP-4.

Before Filling



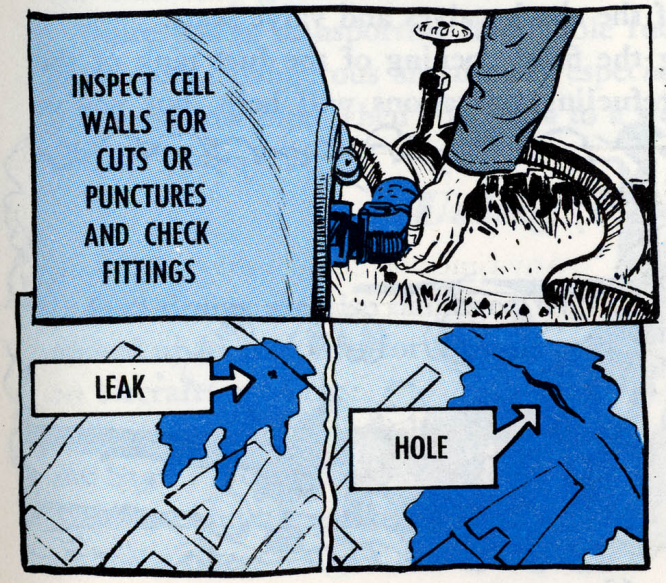
Go over the drum assembly carefully. You want to tighten all loose connections and check the elbow coupler valve for leaks or malfunctions.

Be sure to clean and inspect all couplers and dust caps for missing or damaged gaskets or chains.

Eyeball the bag closely for cuts, snags, pinholes, or punctures.

Give the pressure shutoff control the once-over for missing, loose, or damaged parts.

During Operation



Keep an eye open for leaky drum fittings or elbow coupler valves.

Inspect the cell walls for cuts or punctures. A small hole can be repaired with the emergency repair kit while the drum is full. If you can't repair it, you have to empty the drum fast.

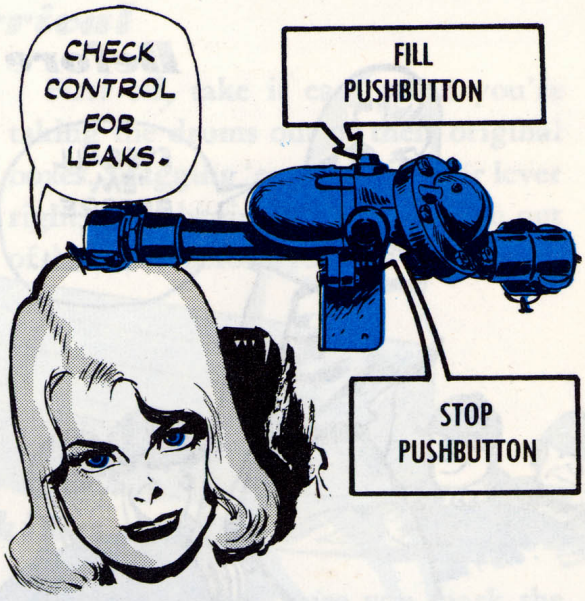
Mark any weakened spot or swell for closer examination when the drum is empty.

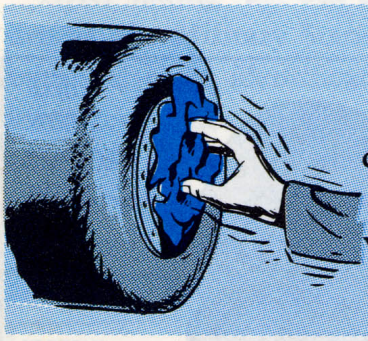
Put a container under a leaking coupling or valve until you can empty the bag.

P.S. MORE

You never try to fill the drum without using the pressure filling control—the drum is not vented, and you can overfill it to bursting.

Check the pressure shutoff control for any leaks or malfunctions. If the control shuts off too soon, press the FILL pushbutton. If this doesn't correct the trouble, shut down right away. If the control fails to shut off after the wrinkles leave the drum, press the STOP pushbutton to stop the flow. In either case, get the word to your section chief immediately.





After Filling

After it's filled, wipe off the drum, fittings, and elbow coupler valve, and look it over closely for leaks.

Then, drain the pressure shutoff control and wipe it with a clean rag.

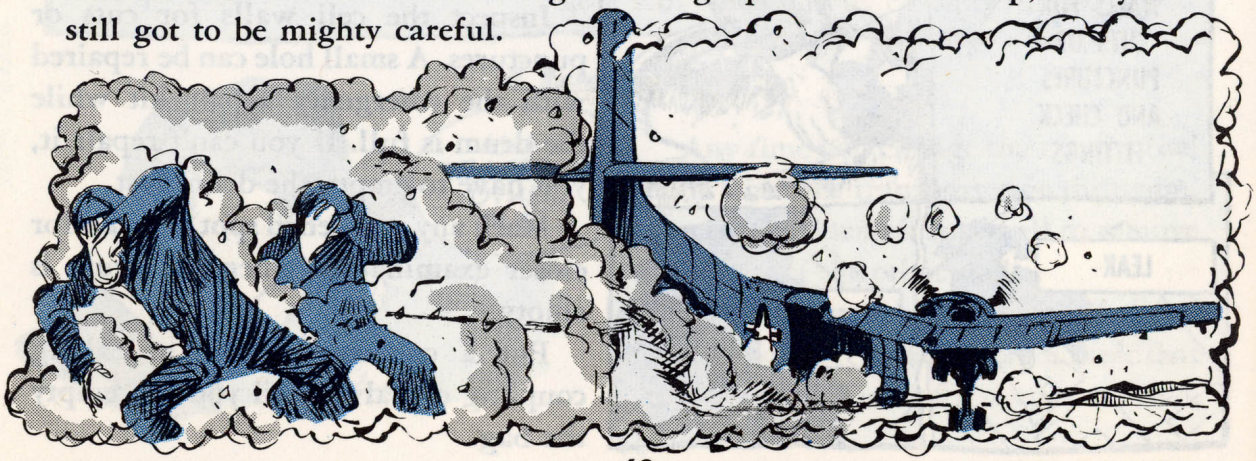
Put the dust cap and plug on.

Dust

Dust can be a real problem at both the filling and discharge sites . . . especially when you combine loose sandy soil with aircraft prop wash.

It's easy for dust and grit to settle in the drum fittings where it can be drawn into the bag during filling. This will not only result in filling aircraft with dirty fuel, but will cause a lot of wear of the check valves and valve seats.

Using the dust cap and covering the filler opening of the fuel tank of the aircraft with a moist cloth during refueling operations will help, but you've still got to be mighty careful.

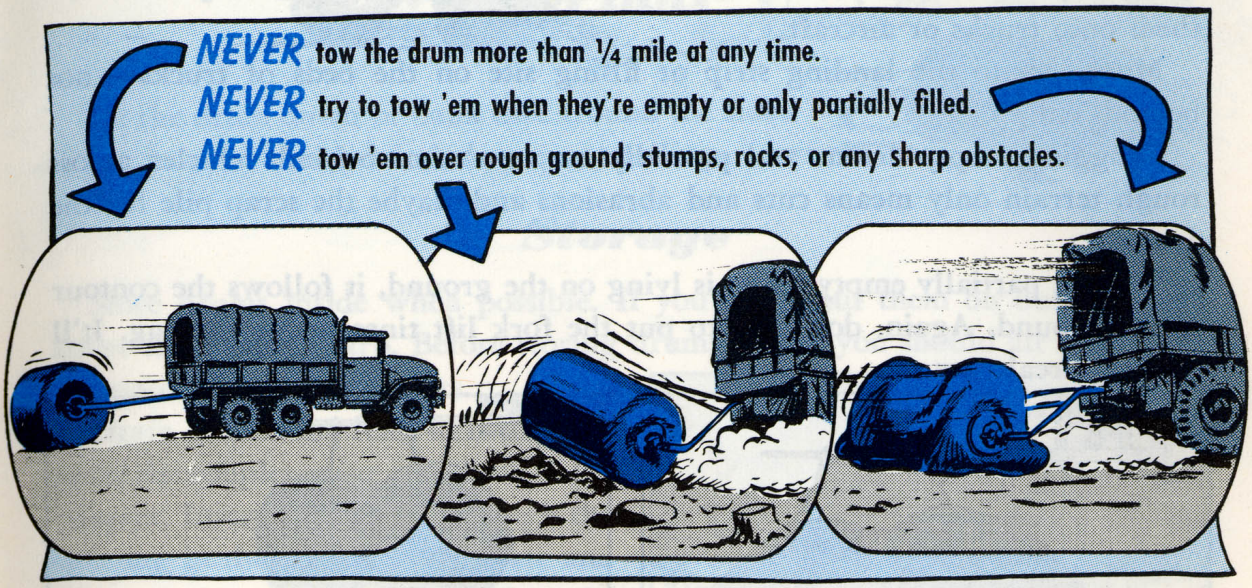


Towing The Drum

While you can tow the filled drums slowly for short distances, keep in mind that they're not intended to be mobile gasoline stations.

If care isn't taken in towing 'em, you may not get 'em back next time around —they'll be in the salvage pile.

REMEMBER:



You use the yoke for towing—you don't use tiedown straps or rope. The straps or rope will bind and won't allow 'em to roll. Dragging only leads to cuts and tears.

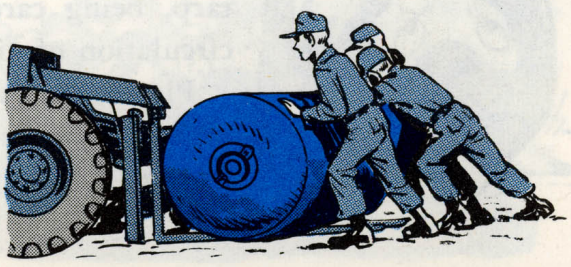
Towing a bag without using the towing bar or yoke is pure murder. When the vehicle stops, the only way for the drum to stop is to crash into the back of the truck. This not only adds to the wear and tear on the drum, it doesn't do the truck any good either.

Since you're transporting flammable fuel, leaks or ruptures in the bag could make for a dangerous situation—especially if it goes banging forward into a hot exhaust pipe when you come to a stop.

Using Fork Lifts

Fuel drums are also damaged when picked up by fork lifts for loading onto an aircraft or truck.

Never attempt to get the tines under the bag . . . you could puncture it. You and your buddies can roll a filled drum onto the tines.



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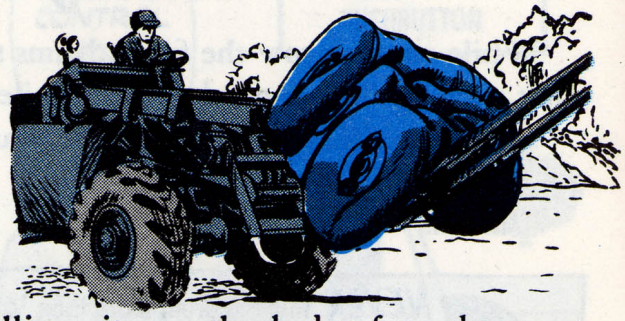
Handling Empties

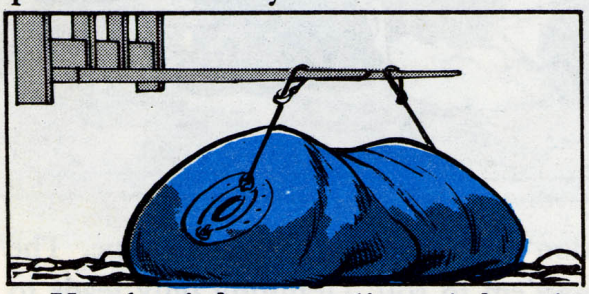


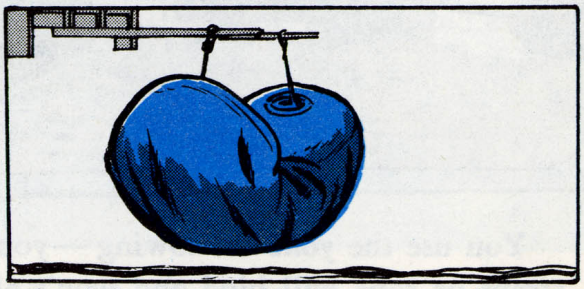
A lot of damage to the drums can be caused by careless handling when they're empty. Sure, they weigh a couple of hundred pounds and are awkward to maneuver. But, fork lifts can give you the boost you need to lift them onto trucks or aircraft.

Move 'em to the landing strip or filling site on the beds of trucks—not behind 'em.

Dragging empty drums and partially empty drums behind vehicles across rough terrain only means cuts and abrasions and maybe the scrap pile for the drums.

When a partially empty drum is lying on the ground, it follows the contour of the ground. Again, don't try to put the fork lift tines under the bag. It'll puncture real easy.





Use the tiedown as slings tied to the ends of the tines. Lift the tines and transport the empties that way. Or, better yet, make up a T-bar for the fork lift which would allow the drum to be suspended.

Extreme Heat

The maximum operating temperature for the 500-gallon collapsible drum is 135° F. Gasoline will vaporize in extreme heat, and build up pressure within the drum.

You can prevent this by:

Covering the cell with a tent or a tarp, being careful not to block the circulation of air.

Placing the drum in the shade or covering it with leafy branches or other foliage.

Cold

When the mercury drops below –20° F, it's time to shut down. Don't attempt to use or handle the drum or hose in temperatures that low.

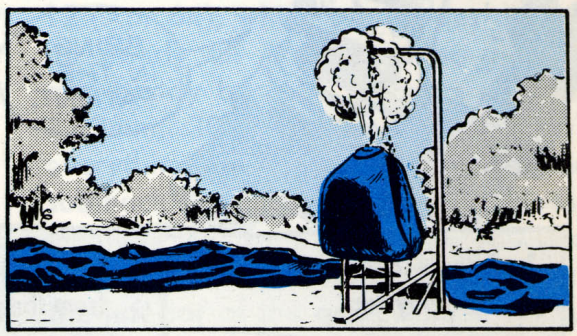
Winds

Tie the drum down or bank dirt around the sides of the drum in strong winds to prevent rolling.

Storage

Store drums inside when possible. If you can't, put them on dunnage and cover them with a tarp. Before storing drums inside, you should air purge 'em to remove flammable vapors.

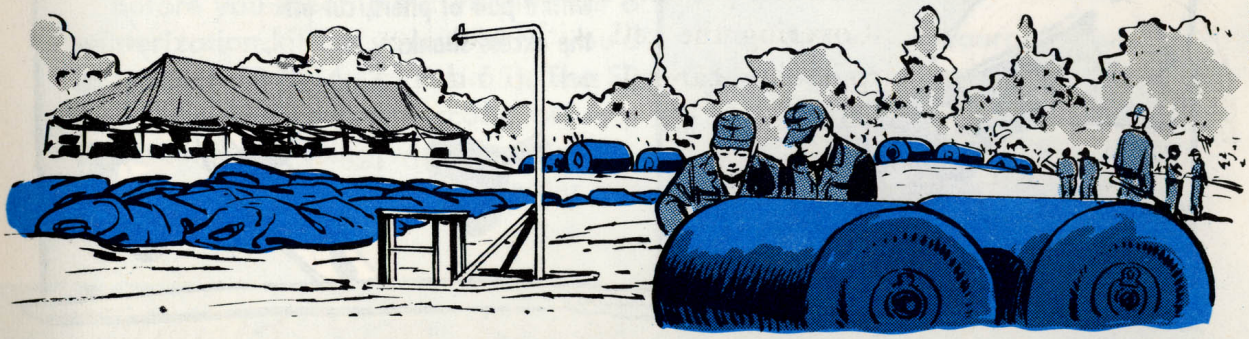
Drain the drum real well and remove the coupler valve and check-valve adapter. Insert the air line through the opening in the front closure plate and blow air into the drum for 10 to 20 minutes. You can do a better job if you suspend the drum by the rear shackles. Since this operation causes flammable mixtures, you should keep all fire or spark away from the area.



To remove the air from the drum, you replace the check-valve adapter in the front closure plate of the drum and connect the elbow coupler to the check-valve adapter. Open the coupler valve slightly. Fold and compress the drum to force most of the trapped air out through the valve — same as you would collapse an inner tube for patching.

Finally, close the coupler valve, remove it from the check valve adapter, and put the dust cap on the adapter.

For limited storage of the drum, you tape the opening of the coupler valve, tie the valve to one of the shackles and fold the drum. The ends of the cell fold naturally towards the middle.

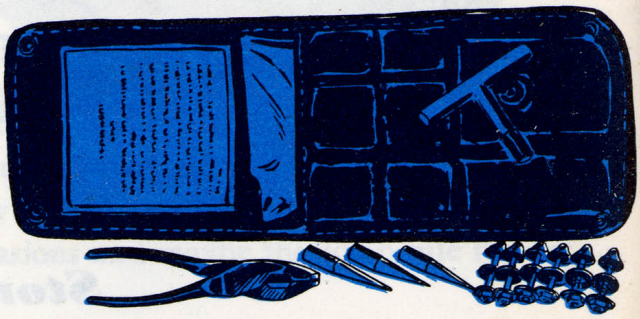


PS MORE

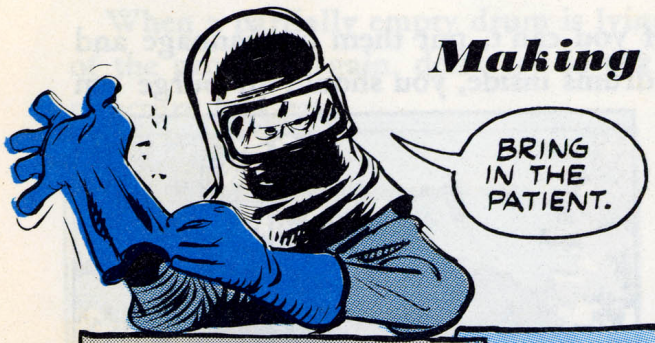
Put the front closure plate end down first. Then life the rear closure plate end, and fold over the front closure plate end to protect the check valve adapter. Don't stow the drums on top of each other except for very short periods.

Repair Kits

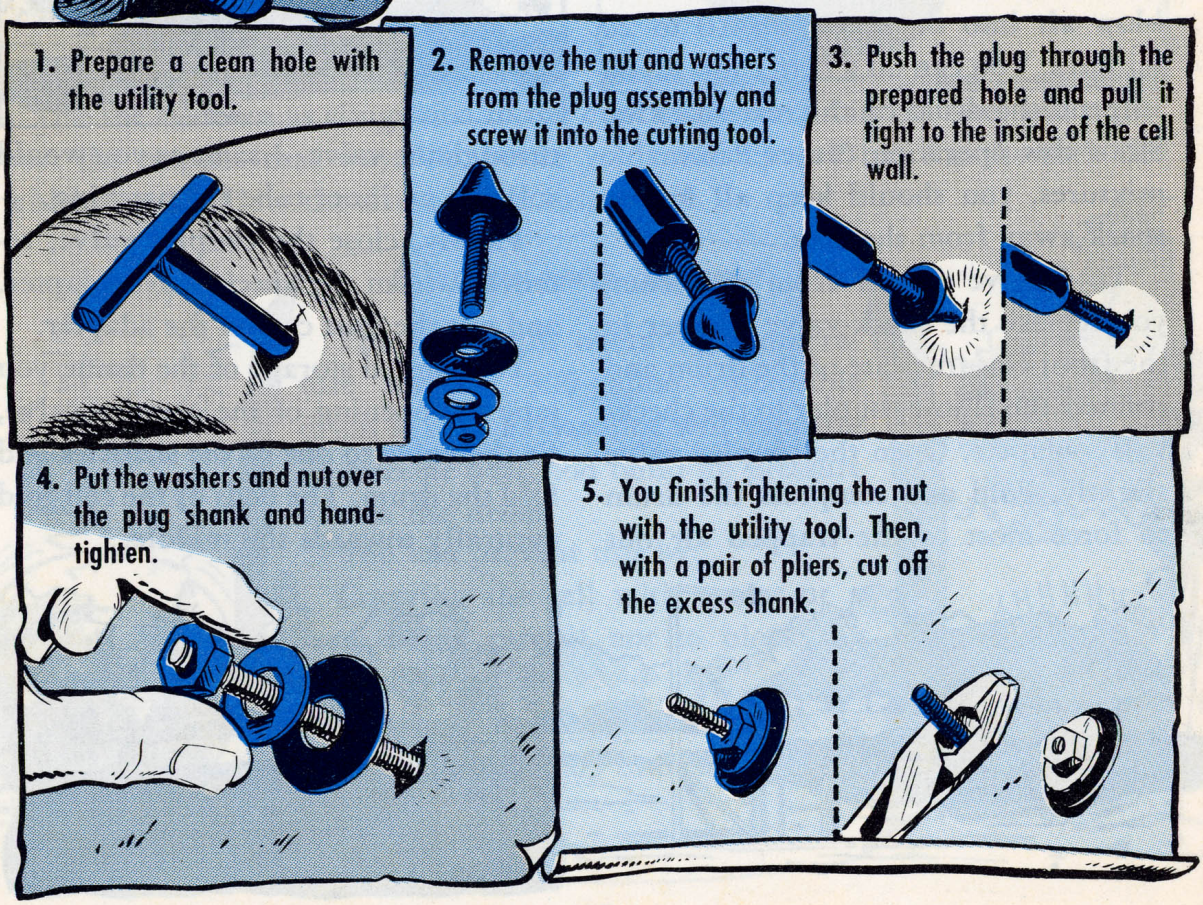
Kits are available for emergency repair of the drum cell, but are limited to holes no larger than 3/8 inch. Even more care in handling the bag has to be given after it's repaired. The sealing plugs can be forced out real easy.

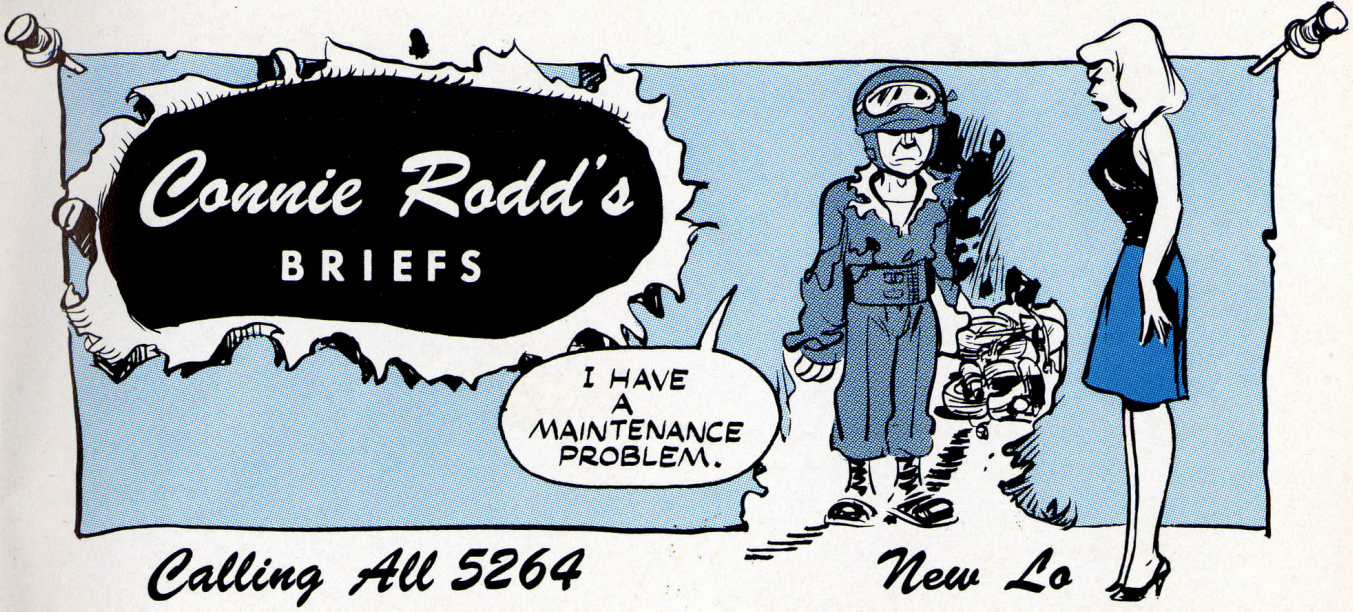


Making Repairs



First, put on the protective hood to protect your face and eyes from escaping fuel and use the wood plugs to stop the flow temporarily.





Calling All 5264

Better run a check right now on your quart cans of MIL-H-5606 hydraulic fluid. Batch Number 5264, fill date of August 1962, has been condemned by the US Army Petroleum Center. If you have some of this batch, turn it in as salvage.

Not OE but OHC

The lube to use in the booster brake cylinder on all your G742-series 2-1/2-ton trucks is OHC. Note 20 of the lube chart in TM 9-2320-209-10 (Feb 65) makes a point of this. Put a little OHC on the threads of the plug so's to keep it from freezing and rusting tight. OHC has an anti-corrosion ingredient in it.

No Kitting Around

Before you shoot in that request for a winterization kit for your vehicle, you'd best check SB 9-16 (24 Feb 65). The SB gives you the complete scoop on requisitioning and using winterization kits, ranging from the personnel heater kits to Arctic closure kits.

New Lo For Machine Guns

So you've been using LO 9-1000-228-12 (Apr 64), which supersedes the LO's for nearly all Army machine guns. It's real handy because it covers all kinds, 7.62mm, .30 caliber and .50 caliber — everything except aircraft mounted and submachine guns. One thing it doesn't mention about the M60, tho, you leave the gas piston, the buffer assembly and the interior of the gas cylinder dry (unlubed) like it tells you in Change 3 (Jan 65) to TM 9-1005-224-12 (Oct 63). The chrome-plated piston on the M60 doesn't need oil.

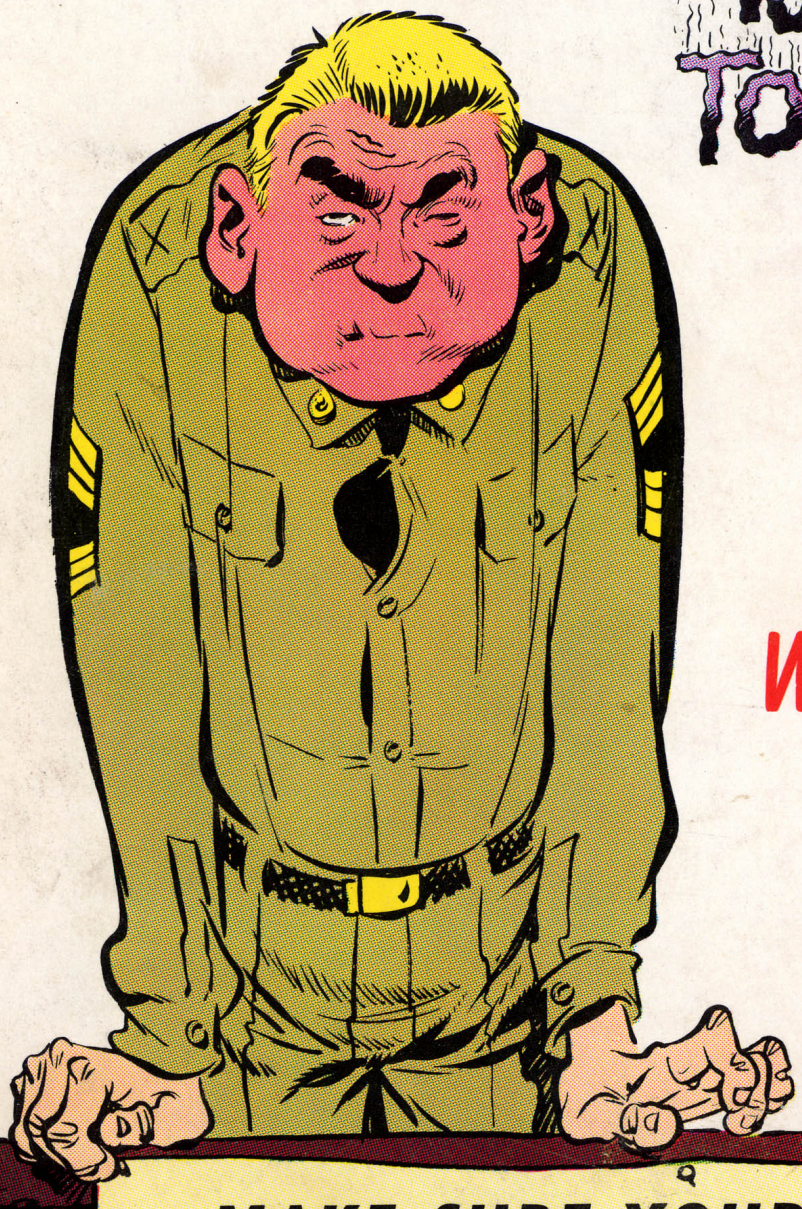
This is a good example of why you should keep updated on the operator's manual — even tho you know your gun inside out. The manual may have lubrication poop that's later than the LO itself.

Wipeup Time

The Army is encouraging use of the GSA-supplied paper wipers FSN 7920-823-9772 (13-1/2 x 22") and FSN 7920-823-9773 (13-1/2 x 16") instead of rags. See the word in DA Circular 700-3 (Dec 64).

Would You Stake Your Life *right now* on the Condition of Your Equipment?

WHEN SOMETHING INSIDE IS ABOUT TO GIVE...



YOU NEED ALL THE WARNING YOU CAN GET!

MAKE SURE YOUR GAGES, BUZZERS, LIGHTS, INDICATORS, AND OTHER WARNING DEVICES ARE ON THE JOB AND WORKING RIGHT!